

THE JOURNAL
OF THE
ROYAL UNITED SERVICE INSTITUTION.

VOL. XLI.

DECEMBER, 1897.

No. 238.

[Authors alone are responsible for the contents of their respective Papers.]

THE FUTURE OF THE TORPEDO

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Tuesday, June 8th, 1897.

The Right Hon. The Earl of HOPETOUN, G.C.M.G.

(Paymaster-General), in the Chair.

IT is peculiarly the function of this Institution to watch all changes in the material with which it is intended to carry on future war, to discuss their nature and character, and to endeavour to forecast their exact meaning.

Except in the open arena of this theatre, it is difficult to suggest where such a function—of such immense value to the State—can be usefully exercised. All those who have been concerned in the production of new elements of force, or in the modification of old ones, have natural and proper prejudices in favour of the new descriptions of material. All who have been officially concerned in introducing the material into the Naval or Military Service, are somewhat apt to look on it as a father on a child, and surround it with an atmosphere of affections and antipathies which must be supposed in some degree to warp the judgment. Then, on the other side, there are great bodies of men who are directly concerned in maintaining the *status quo* of the old material, or who are committed to a group of opinions which rest upon the *status quo*. The largest body of all is that inert but powerful mass of men who take things as they find them, without examining their foundations, without watching their growth or shrinkage, and without applying the critical faculty to the investigation of their relations to their environment. This body will accept, without noticing it, a series of small changes, all in one direction, and tending to one inevitable result. It will even accept a

very great change, so long as no one points out what such a change involves, and so long as the incongruous ideas surrounding the old and the new do not come into strong contact and collision.

Now there is no place where all these mental forces can so well meet, and break, and eddy, as tributaries to a great stream of sound thinking, as in this beautiful theatre, at last worthy of the important discussions destined, let us hope, for a long time to come, to take place within it.

Here all ideas have free course, and can be uttered with that full freedom which feels itself bound by the limits of decorum, and is first of all bent on giving every man his due.

There is one particular body whose voices are conveniently heard here, which I notice last. This is the body which, being independent alike of responsibility for production of new material, or for its introduction into the Services, has employed itself to the best of its powers in the office of independent critic. The individuals composing this body may be, and generally are, diverse in their views. Many of them have been forming views through a long course of years, seeing, or fancying they see, in the history of the material of war, certain fixed principles which always govern; believing that principles are so unswerving in their action that the application of them enables the users to forecast the future, and to show that material productions intended for use in war are now on the right track, and will go on to produce certain momentous results; and now, on the wrong track, pursuing a path which must be ultimately retraced.

There are other individuals of this body who do not so much concern themselves with underlying general principles. They are more impressed with the nature and immediate influence of any striking change in the material proposed for future war, and are less apt to look at the general environment of the change than on the results of the change itself.

In effect, we get from the one section of these independent critics a certain almost fixed hypothesis of the nature and character of war, into which they endeavour to fit, as time goes on, the new developments of material, and to discover whether they are of a permanent or of a temporary character. From the other section we get an enthusiastic—and, of course, often a prophetic—support of material changes, the pressing forward and universal adoption of which becomes the be-all and end-all of their advocacy.

Both sections necessarily make mistakes. Their wisdom consists in the speed and readiness with which they admit them. The man of hypotheses has, sometimes, not yielded in time to the enthusiast's prophetic instincts; he has not modified his hypothesis to the full extent demanded by the new material production. The enthusiast pursues and upholds the object of his enthusiasm after some new introduction has—to use a familiar but expressive phrase—put its nose out of joint.

Placing myself, as I believe I ought, amongst the first group of independent critics, I have noticed it being given as an instance of the irony of fate that I, who have now for more years than I like to look back

upon, been the steady upholder of the battle-ship as a fundamental element of naval war, should be the one to declare her position precarious.

But no framer of hypotheses on the facts before him is very good at his trade, if he is not prepared with plausible methods of wriggling out of one hypothesis into another.

I might take Benedick's view of the situation, and say that when I supported guns and armour in the battle-ship, as against the torpedo in the unarmoured torpedo-vessel, I did not think I should live to support the torpedo-vessel against the battle-ship.

But I need not really go so far. It is on clear record that for more than twenty years I have always believed, and said I believed, that a type of battle-ship, heavily but partially armoured, of great size, with two or four heavy guns in barbettes or turrets forward, or forward and aft, was not a permanent type—that such a vessel did not, in fact, fit into the war hypothesis, and was really incongruous to her environment.

I have, in fact, ever since the present type began to show itself in the "Devastation" and "Thunderer," looked for a change to a battle-ship of much smaller displacement, having a larger area covered with lighter armour, and carrying a broadside armament of more numerous and lighter guns.

It may be said that the change is at least somewhat long in coming. But whether I regard the general thought of the Navy, or whether I address myself to the expression of that thought in the decreasing size of the heavy guns, to the increasing areas of thinner armour, or with more interested ardour to the growing development of the line-of-battle cruiser, I gather additional reasons for adhering to the general hypothesis put forward in the Prize Essay of 1877.

Thus I must assume myself to have held that in no case, and quite apart from the torpedo, was there stability in the type of battle-ship at which we have arrived. And my convictions on this head are greatly strengthened by the existence of a law which any student of the progress of material science in the Navy must have observed in existence, that is, that perfection is the sign of disappearance. It was so with the sailing brigs; it was so with the sailing frigates; it was so with the sailing line-of-battle-ships; it was so with the steam two-decker being superseded by such great steam frigates as the "Orlando" and "Mersey." It was so with these, by the appearance of the "Warrior"; and when we arrived at the very perfect "Achilles," or, in some senses the more perfect "Hercules," it was merely the signal that the building of that type had come to an end.

It is pretty clear on the face of things that the existing type of battle-ship has now reached its prime, under the commanding genius which has had her development in charge. Sir William White has brought the existing battle-ship to such a state of completeness and perfection as the embodiment of current naval idea, that even he might be puzzled to suggest further advances on the same lines.

That fact then, is, according to the routine history of naval material

during the present generation, a warning to us to look for some momentous change.

I bring this general conclusion of my paper thus into early prominence, because it is the status of the present battle-ship which is most brought into question by the development of the material of torpedo warfare. The type being already threatened by the general condition of things apart from the torpedo, it appears to me that the development of the material of torpedo warfare, pure and simple, will, in the first place, hasten the coming change, and in the next direct its course and determine what the character of the battle-ship of the future is to be.

For I can by no means abandon the hypothesis which has stood the test of actuality ever since naval war took a distinct form, namely, that there must be a battle-fleet for claiming and maintaining the command of the sea. This battle-fleet I have ever held, and hold still, must be composed of vessels such that they cannot be matched except by similar vessels, and that superiority will lie—all other things being equal—with the fleet which is most numerous.

I do not yet profess to know what this type will be. I am only convinced that we shall very shortly cease to build any more of the present type.

I do not expect to carry many minds with me at this first onset. I rather suspect my conclusions may seem to most of us preposterous. That is always the case where one has for a long time been following up a particular train of ideas, and the conclusion is announced to those who have not kept company by the way. But for myself, I cannot get over the arguments as they stand, nor escape from the conclusions towards which they point.

I well recollect, in the year I travelled down to witness the experimental firing at the "Glatton's" turret, in company with some of the members of the committee which had been to Pola to examine the earlier developments of the "Whitehead torpedo," their caution in expressing any sense of what it might mean. Their expression was that it did what it professed to do, but whether this meant any change in the system of naval warfare, or, indeed, whether there was any opening at all for the weapon, they would not go so far to express as an opinion.

But it went on. It was placed in gun-ships as if it were itself a gun of immense power, but of very short range and somewhat uncertain trajectory. "It was a sort of glorified carronade where the greater destructiveness was balanced by the shortness of its range and its bad shooting; and it was possible to debate over its real value on somewhat the same lines as our forefathers had debated over the large-calibred short-ranged carronade, with the small-calibred great-ranged 'long' gun."

About the destructive power of a torpedo, when successfully exploded, no one could doubt. Even with the charge of 60 lbs. of guncotton, which was that of the earlier weapon, few ships could sustain the explosion and live. Some arrangements of bulkheads and coal stowage under water, air spaces, and barriers might in cases prevent the exploding torpedo from doing fatal injury. But I believe from the first it has never been suggested

that anything in, or attached to, the hull of the ship herself, could act in the way that armour acts against shot, in rendering a portion of the ship's bottom impervious to the blow of a torpedo. The only attachment which has been at all relied on has been the system of nets set out some 30 feet from the hull. But such an arrangement was inapplicable to ships under way, and the torpedo was left without any practical hindrance by way of resisting defence.

The torpedo was first introduced into gun-ships simply as a different class of gun. Had it remained in this situation it would not necessarily have affected the type of war-ships. Neither the weapon nor its machinery was of any great weight, and generally speaking it was more a question of space than of weight if many training torpedo-tubes were introduced.

But it appeared that it must have a distinct effect on tactics. The gun was already capable of gaining the victory in action, even of destroying the ship it was opposed to. There was a general belief that in the result of rifled shell guns, as against steel and iron hulls, whether armoured or not, their destructive powers were very much greater than those of smooth-bore shot guns had ever been against the wooden hulls to which they were opposed. The introduction of the torpedo into ships carrying such guns was, in a sense, a work of supererogation. It was a weapon not really wanted, and it seemed as though in the end it would be very little used.

To the superior gun-ship there was an unpleasant equality with the inferior gun-ship introduced, if she allowed herself to get into torpedo range with such a ship. Indeed, the equality was like to be over-balanced in such a case, for the superior gun-ship was probably the larger ship, and therefore offered the better mark to the smaller ship's torpedo. The larger ship, on the other hand, was as liable to be sent to the bottom if struck as the smaller one, while there was no inherent increase of accuracy in the larger ship's torpedo fire. Taking it altogether, therefore, the tactical policy of the superior gun-ship would be to begin, continue, and end the fight with the inferior gun-ship, well out of range of the torpedo.

There might have been for the inferior gun-ship an opposite tactical policy. Just as it was the policy of the superior gun-ship to avoid a position which would lessen her superiority, so it might be the policy of the inferior gun-ship to strive for a situation which might lessen her inferiority by bringing her torpedoes into play.

If we follow this line of argument up we might see that, as in all cases force is a question of money, so the pressure of the facts might give rise to the building of smaller ships where gun-power was sacrificed to speed, and where the torpedo was relied on as the principal weapon. The tactics of such ships would have been to use their superior speed so as to get within torpedo range of the superior gun-ship, which would be unable to frustrate the attempt, as she had given up speed to retain superior gun-power.

But such a development as this, coming directly from the nature of the case, and perhaps logically its outcome, was altogether too bold to be

considered. We rarely see such things happening in the history of naval material. We must always expect a long period of incongruity going on, where the old things and the old systems are incongruously and illogically maintained, side by side with the new things or the new systems, which are silently supplanting them. Men never at first perceive the final results of a new development. Even when they begin dimly to foresee, a natural instinct causes the mind to revolt against being led into an unknown and doubtful sea of speculation; and usually the nature of the change is not perceived until it has been instinctively accomplished.

So that we could scarcely anticipate a change coming about in this way. It was more likely that we should look at the torpedo as an auxiliary weapon to be used, like the ram, only on some special occasions. It would be maintained as a weapon of primary importance because of its enormous power of destruction, but of secondary importance because it could so seldom be brought into play. It would be supplied, to a greater or less extent, to every ship in a battle-fleet; but battle-fleets in action would be compelled, because of the torpedo, to fight at great range, and therefore the torpedo would never come into play.

The general and more immediate result, therefore, of the introduction of the torpedo was to push the ram back, and to bring the gun forward as the decisive weapon, without making any appreciable change in structure or in the differentiation of naval force. The great development and improvement of the torpedo thus had no manifest effect. It was more than met by the increase in the power of the gun, weight for weight. There was greater range, flatter trajectory, better mounting, greatly increased rapidity of fire. The torpedo as an auxiliary weapon in a gun-ship did not promise to have much effect.

But it was curious to note that whereas in this and other countries many authorities were found to uphold the proposition that the ram would beat the gun, and that the ramming battle was the battle of the future, no authority, so far as I am aware, either here or elsewhere, has pre-figured the torpedo-action pure and simple as the battle of the future. But those who favoured the idea of the future ram-battle are obliged to admit that the torpedo makes against it.

Almost from the first it was seen that an ordinary steam pinnace, carrying a torpedo on each side ready for launching, was a full match for the most powerful and costly war-ship ever heard of, if only she could get within the 200 or 300 yards of her which limited effective torpedo range. The American Civil War had familiarised the naval world with ideas of secret and silent night attacks, using explosives against the sides of too secure and careless adversaries. The locomotive torpedo offered an almost infinite field for this sort of warlike ingenuity and daring, and the thoughts of all were full of it. There is some difficulty in tracing exactly the connection of ideas between this particular form of attack and the construction of light and fragile vessels to carry it out. I do not recall clearly whether any reasoned demand for such a vessel as the "Lightning" was the cause of her construction, or whether, being constructed on an outside and instinctive view of the situation, she became the cause rather

than the effect of naval views. Here she was, however, as far back as 1877, only three or four years after the torpedo itself had secured a position. She was fragile in hull beyond the dreams of naval architecture. Displacing 27 tons and being 74 feet in length, she was too large to be called a boat and too small to be called a ship; but she could discharge a missile capable of destroying any ship afloat at a blow, and she possessed the then enormous speed of 19 knots an hour.

Apart from her whole meaning, whatever that might be, the "Lightning" was the pioneer of new developments in the matter of speed. Almost ever since the introduction of the screw propeller, speed and displacement had been so closely associated, that down to the date of the "Lightning's" appearance we did not look for higher speed unless there were greater displacement. It was, indeed, almost a received axiom that high speed could only be got on a large displacement; and, if I am not mistaken, size was increased on purpose to get speed.

The general result puzzled the critics who rested their hypotheses on historical analogy. In the old wars, the lighter frigates had the greater speed, and the heavier battle-ships the less speed, so that fighting force and speed were interchangeable. Now the ships which had less fighting force had less speed also, and the tactical balance was upset.

It is true that, long before the "Lightning," Sir Edward Reed had made a vigorous push to force the speed of the smaller displacement, but practically it was long after the "Lightning's" time that we began seriously to throw over fighting force in the smaller displacement in order to exchange it for speed. It is almost the arrangement of yesterday that left the speed of the battle-fleet at 17.5 knots, while raising that of the attendant frigate to 20 knots.

The result, no doubt, has been that the critic with his hypothesis founded on the principles drawn from history and experience is, so far, no longer troubled. It has come about, as he was bound to think it would, that the old balance is restored, force—that is, gun-power and armoured protection—being made to give way, speed takes its place, and the lesser force has the greater speed, and the greater force the lesser speed, just as it had a century ago. But the disturbing novel element of the torpedo remains behind.

The restoration of the old balance has come about without pressure on the part of the torpedo. There is no direct connection between the torpedo, and the fixing of the speed of the 14,900-ton battle-ship at 17.5 knots, and of the 7,350-ton cruiser at 20 knots. That change has been a differentiation of naval force, brought about by the gun alone, and, therefore, probably caused by the same agencies that in former days produced the slow line-of-battle-ship and the fast frigate.

But the "Lightning" showed more clearly than ever before what could be done when gun-power was wholly sacrificed to speed. She was the smallest and the fastest vessel afloat; and if she could bring her weapon into operation there was not really a more powerful vessel existing. She was 27 tons, and yet, supposing the conditions admitted it, she was a match for the "Alexandra," 350 times her size!

What meaning were we to attach to such an unprecedented element of naval force? What did the "Lightning" mean? Did she mean to the dominant naval nation the same thing as to the sub-dominant? Was she a threat to British naval power, or did she enhance it? How was British naval power going to fit her into its policy and programme? The new vessel had certain disabilities. She was scarcely sea-going. She was certainly not sea-keeping. To use the phrase which her type gave rise to, her "radius of action" was short. She could not operate at any great distance from her mother-port. How then could she be used for that system of strategy which made the enemy's coast-line the frontier of the dominant naval power's territory? According to the hypothesis set up by the experience of naval war, the moment the dominant naval power was forced into defending her own coast-line and ports, she, *ipso facto*, ceased to be dominant. The "Lightning," so far, was a reserve vessel, only to be brought into use by the British when they had been beaten off their platform of dominant naval nation, and were forced to allow some other Power to take that command of the sea which they could not hold.

There was a natural, and not improper, reluctance to provide for this inner line of defence when the outer line was notoriously insecure. It was illogical to declare for the command of the sea, to decline taking the steps necessary to secure it, and at the same time to make preparation for losing it. Hence the "Lightning" was slow to take hold as part of the British naval system.

But, for sub-dominant nations, the rôle of the "Lightning" was clearer. Costing a mere trifle, exposing to hazard the lives of not more than a dozen or fifteen men, and yet being a solid threat against the life of a battle-ship costing three-quarters of a million of money, and against the lives of the five or six hundred men embarked in her, the new vessel was eminently qualified to prevent the blockade of her mother-port by battle-ships, and to compel all ordinary war-ships of her enemy to keep their distance. All the Continental nations forthwith began to build multitudes of improved "Lightnings." They were generally larger, with greater speed, and with longer radii of action, as a consequence of increased coal supply and improved economy of consumption. Their force was also increased by additional torpedo-tubes, and a larger reserve of torpedoes.

Not altogether willingly, England, in 1878-9 built a few improved "Lightnings." Ripening opinion claimed that long before Great Britain could be driven to use the new torpedo-boats in defence of her home ports, she must have been on her knees suing for an ignominious peace.

But it seemed out of keeping with progress that so novel an idea as the "Lightning" should be lost to this nation; meanings for her were sought which were scarcely in the minds of those who designed her.

As a threat to gun-ships under way watching a port, it was absolutely necessary that the torpedo-vessel should have very high speed. If she had not the power of coming to close quarters with the battle-ship or cruiser, she was no threat at all. If she was to threaten a battle-ship or

cruiser squadron in the open in daylight, her possible speed of passing from gun-range to torpedo-range must be very great indeed. She must calculate on running through the fire of the gun-ships with such rapidity as to preclude fatal damage before she discharged her torpedo. If her shot was successful, she would not expect to sustain much more fire; if it was unsuccessful, the high speed would be useful in taking the vessel out of fire as quickly as possible.

Acting from a port against a squadron at sea, the whereabouts of which might not be easy to discover at night or in thick weather, the high speed might be a necessity, if discovery was to be made at all before day broke. But on the other hand, if the approach was to be secretly made, and the object was to steal alongside and discharge the torpedo before discovery, the high speed would not be available. Every consideration would prompt low speed. There would certainly be noise in high speed which was not present in low speed. As to visibility, it was certain that the foam at the bow would show out to an extraordinary extent in darkness; and this could only be kept down by low speed. There was an inherent defect in the earlier boats of an immense bright flame from the funnel at high speed, which absolutely forbid its use when the approach was to be made by stealth.

A good many of these considerations lost their force, if a "Lightning" was to be employed in a different way. When the attack was to be made by a "Lightning" on gun-ships at anchor in roadsteads and harbours, and not on ships under way in the open sea, many of the conditions demanding speed were absent, and generally those compelling slow speed were paramount. It must be expected that a careful look-out would be kept, not only from the ship it was intended to attack, but also from all possible points in the vicinity from which the approach of torpedo-boats might be descried. It would be imperative to do nothing which at night might cause early discovery. The approach must be inaudible and invisible, and this could only be secured by the lowest possible speed. The theoretical point was made clear in practice by the conduct of the "Lynch" and "Condell" in destroying the "Blanco Encalada" under these conditions. The two ships coming from the South, took care to avoid any out-look which might probably be kept in their direction, by passing Port Caldera, where it was supposed ships of the Congressist Fleet were lying, far at sea, and ultimately approaching it from the North, whence their appearance would not be expected. Then skirting the North shore of the bay close under the land at slow speed, they cautiously approached the South shore under which the "Blanco Encalada" was lying. Both ships kept at low speed, and the "Condell" had fired her second torpedo before she put any speed on. The "Lynch" following in like manner, kept her speed down till the second discharge of her torpedo took effect, and the "Blanco Encalada" began to sink. The high speed of these ships—each 20·2 knots—was, therefore, not a necessity for the attack made; not being even very necessary for the sea voyage previous to the attack, as Huasco, whence the torpedo gun-boats issued on their mission, was only 80 miles south of Port Caldera. It

may possibly have brought them off with the minimum of damage. But I suppose if we were to make accurate experiments and calculations, it would be found that the safety, even the rapidity, of escape after firing a torpedo in a 15-knot and in a 25-knot vessel would not be found to differ in any very marked degree—the intervals of time dealt with in either case being so very small.

But the "Lightning"—an extraordinary torpedo-vessel of very high speed—was upon us, and if we, as the dominant Naval Power, were precluded from adopting her as sub-dominant naval nations readily and logically did as the defender of home ports, some employment for such a class of vessel which was consistent with our position, ought to be found.

It was supposed to be found in the now somewhat despised second-class torpedo-boat. These boats were smaller "Lightnings." They were 60 feet long, they weighed only 15 tons; they steamed only 15 or 16 knots, but they carried two torpedo-tubes and could be hoisted into and out of battle-ships almost like any other boat. Their *raison d'être* was, that they could be carried off the enemy's ports on board the battle-ships, could be hoisted out and sent into the port, to approach it by stealth, and to fire torpedoes at the ships found inside, in what would necessarily be an indiscriminate manner.

The building of great numbers of torpedo-boats by Continental nations, which were continually improving in speed and increasing in size, went on. England distinctly, but I think quite logically, lagged behind in the production of these enlarged "Lightnings." Writers, who went no further than to count noses, steadily upbraided our Government for its slackness, and shook the increasing number of first-class and sea-going torpedo-boats abroad, in its face, as if it were obvious that the only answer for the dominant Naval Power was to build a greater number of the same class of torpedo-boats which the sub-dominant Naval Powers were producing.

The gradual extension of the radius of action of the torpedo-boat began to change its *raison d'être*. It began to be held that France, especially, in building a class of "sea-going torpedo-boats" was developing the torpedo-boat attack on our ports, rather than the torpedo-boat defence of her own. But I suppose this kind of feeling did not arise till about eleven years after the "Lightning," when in 1888-9 France produced such vessels as the "Alarme," "Aventurier," "Défie," "Ouragan," etc., vessels 150 feet long, of 148 tons displacement, 20 knots speed, 40 tons of coal, four torpedo-tubes, and two 3-pounders as gun armament. Our own boats of that date were shorter, smaller in every way, but were not deficient in speed, torpedo-tubes, or gun armament.

But considerable alarm had begun to spread through the Navy and into the offices at Whitehall, in anticipation of what these vessels on the other side of the Channel might mean to the war-ships in our more or less exposed anchorages, such as Spithead, Portland Harbour, and Plymouth Sound on this side.

I think it was before this that authors on the Continent had begun to assert in various forecasting pamphlets, that the downfall of England would be effected by her obstinacy in adhering to the heavy-armoured battle-ship fleet, destined to be destroyed by the light and cheap, but overwhelmingly powerful, torpedo-boat fleet. Our attention in the Navy was more directed to what the open-sea defence of our battle-fleets might be against the open attack of the torpedo-boat fleet. The picture in our own minds was that of our battle-fleets, composed of large, heavily-gunned, armoured battle-ships, not of excessive speed, behaving just as our sailing battle-fleets had done in time of yore, passing from point to point in the open sea, in assured superiority to everything else, except a like fleet composed of greater number of ships. Or else we mentally contemplated the same battle-fleet cruising off an enemy's port and supporting an inshore squadron which was closely blockading it.

When the Continental pamphleteer defeated our battle-fleet by a fleet of torpedo-boats—off Cape Finisterre, if I recollect rightly—we were not disturbed. The answer was two-fold, and seemed conclusive. The torpedo-boats of the day had not the sea-keeping qualities necessary to keep up a watching station in such a locality; although, normally, the speed of a torpedo-boat fleet was considerably greater than that of the battle-ship fleet, in reality it was very much less. If such an improbable attack could be carried out, the attacked battle-ship fleet would at once form line abreast, and, turning their sterns to the torpedo-boat fleet, would keep them out of torpedo range, and subject to gun-fire until they were either destroyed, or abandoned a hopeless attempt.

If the attack by torpedo-boats were to be made by night, and by surprise, the answer was that, even in proximity to a port which it was watching, a battle-fleet was not an easy thing to find at night. If it were found, the tactics arranged for daylight would be such a bar to the success of the torpedo-boat fleet that it was not possible to conceive sustained attempts of the sort. In any case, too, in reasonable weather, lying watching an enemy's harbour and depending on reports of the inshore squadron as to any attempts of the enemy to put to sea, the ships of the battle-ship fleet might lie with their nets down and steam at short notice, and thus practically defy the torpedo-boats' approach.

M. Gabriel Charmes' book was translated into English in 1886. He did not believe, it will be remembered, in the vitality of the large heavily-armoured and heavily-gunned battle-ships. But I think he rested the anticipated disappearance of the battle-ship more on the advance of the light, but heavily-armed, gun-boat, than on the advance of the torpedo-vessel pure and simple. He was, for instance, entirely against enlarging the torpedo-boats. He declared that the 45-ton torpedo-boat of 33 metres in length was "a thorough sea-going vessel, and fit for any voyage." And, speaking of the 71-ton 45-metre boat, he said there would be nothing to complain of if the "pattern were adhered to, and were the limit, instead of the beginning, of increase of size."

All M. Gabriel Charmes' views on the future of naval war, as well as those of his patron and supporter, Admiral Aube, were coloured by a

disbelief in every lesson of the past, and an idea that all things had become new to the modern Navy. It was chiefly there, where, in my judgment, these authorities failed. At any rate, the views did not hold either in the French or the English Navy. English naval authorities, and English naval officers generally, continued to think, that at sea at least, the place and rôle of the large, heavily-gunned, and heavily-armoured battle-ships was secure.

The state of our fleet at the moment is the most complete and convincing exhibition of this view.

Sundry experiments had assisted to keep us in this frame of mind. Actual trials at sea had shown how much nearer the measured-mile speed of the gun-ship or vessel was to her sea-speed, than was that of the torpedo-boat, even of the largest and most approved patterns. Attempts on the part of the French in their manœuvres to combine a torpedo-boat squadron with a gun-ship fleet in strategical and tactical autumn manœuvres became complete failures on the part of the torpedo-boats. It was even found that many of the boats could not discharge their torpedoes in a sea-way.

So far, then, as operations in the open sea were concerned, the torpedo-boat, and the torpedo with her, notwithstanding the increasing power, range, and accuracy with which it was being endued continuously, fell back in naval estimation.

But one thing could not be ignored, namely, the threat, already alluded to, as to what the new sea-going torpedo-boats across the Channel would certainly do, in war, to the exposed war-ships in fairly open anchorages on this side. The threat was strengthened by the fact that invention had to some extent, at least, deprived us of the defence against torpedoes that nets had formerly afforded.

In naval circles in general, the opinion was largely held that France might go so far as to make her declaration of war by a wholesale destruction of battle-ships and cruisers lying in port and unwarned of the torpedo disaster that was impending.

It was most remarkable that we ourselves formed no designs of opening a war in such a way, nor did it seem to occur to us that in this case what was sauce for the goose was sauce for the gander. We were, it may be said, so entirely occupied in considering the defence of our ships and ports against the enemy's torpedo-boats that we gave no thought to what our own first-class torpedo-boats might do across the Channel in the same way. It even seemed possible that, as Charles Dickens said of another kind of thought, this one was "busy on our lips, but idle in our heart."

Yet without any doubt the fear of this kind of thing began to take hold of us and to grow in 1882, and has been growing and strengthening ever since.

While no doubt some of the reasons for the growth have been drawn directly from the autumn manœuvres; while the officers in the gun-ships have uniformly and almost unanimously maintained the futility of torpedo-boat attack by stealth and surprise on properly prepared and watched

ships; they have admitted the tremendous anxieties and the sleeplessness that must invade every pillow in a gun-ship fleet exposed to torpedo-boat attack at night.

The officers who have commanded the torpedo-boats conducting these mimic attacks almost invariably tell a different story. They declare generally that the officers in the battle-ships and cruisers, large and small, have misapprehended; that when physical objects, booms, obstructions, and barriers do not surround the gun-ship and actually prevent the torpedo-boat's approach, her fate is sealed by the attack of torpedo-boats during the hours of darkness in suitable weather.

This fear of attack while at anchor has most naturally spread to a fear at sea and under way, and I am not at all sure that the officers who have accepted this fear restrict it to the hours of darkness.

The idea that a modern battle-ship might not be the acme of naval force which the ancient sailing battle-ship was, was put forth some time ago. If my memory serves me, it was put forward by Sir Nathaniel Barnaby about the "Inflexible" time, and before the torpedo-boat was such an acknowledged danger to the battle-ship as she has since become.

In 1882 Captain (now Rear-Admiral) Harris, in a paper read to the Institution, when I had the honour of being in the chair, followed this up by distinctly avowing that it was necessary to attach to every battle-ship sea-going torpedo and gun-boats of great speed. These vessels were to be in part protective of the battle-ships, but more in the way of adjuncts to her, making up for her deficiencies. There was no broaching of the idea that a type of ship requiring such adjuncts could not be a permanent one.

In my remarks upon the paper, I said I thought it was one which in a year or two would be referred to as giving a starting-point to the policy of the future. I was not as yet prepared "to desert the simplicity of the old serried rank of ironclads, one astern of the other, for making a solid attack."

Early in 1883 Mr. (now Sir Nathaniel) Barnaby read a paper, entitled "Battle-ships—a forecast," in which he said that, "The use of torpedo-boats of high speed and in great numbers, tends to the gradual extinction of attacking or blockading the sea-ports of an enemy by means of large ships, because of their great cost, and the risk of fatal blows from the torpedo." Again he said that, "The battle-ship of large size is not only likely to become obsolete for the attack and blockade of ports, but also for another important service, viz., harassing the commerce of the enemy." He seemed to think that the battle-ship, to act as such, required much modification, and he apparently deprecated a tendency to increase her size and cost.

Captain Harris followed this up a couple of months later by a paper, entitled, "Maritime power and its probable application in war." He drew forcible attention to queries put in Mr. Barnaby's paper, and while admitting that they could not be answered off-hand, he yet hoped that discussion following his paper might draw towards the proper answers.

He distinctly doubted whether it would be sound policy to build few battle-ships of great nominal power and size, and contended that their position would be rendered insecure, were they to be opposed by greater numbers of lighter gun-ships. It might not be quite wise, he thought, to look so far ahead, but he could not but ask whether ten battle-ships of the first class were the equals in action of five such ships combined with fifteen or sixteen protected torpedo and gun-vessels, all of equal speed and of the same equivalent value.

So far as the paper dealt with battle-ships, it rather supported the idea of supplementing them by vessels of different types than urged the idea of abandoning the type for something else. Captain Harris had, in his former paper, made sure of the growth of the torpedo-boat into the sea-going and sea-keeping torpedo-vessel, but there was nowhere as yet on this side of the Channel any admission that the position of the gun-ship was likely to be threatened decisively by the advance of the torpedo-ship. The gun-battle-ship would still hold her own at sea, and would fulfil her own functions when supported by adjuncts of suitable character.

But as the general fear of the torpedo-boat grew, and took the form of apprehending attack on ships at anchor in open ports and roadsteads, two methods of relief suggested themselves :—First, and less firmly, the idea advanced of so protecting harbours containing men-of-war that torpedo-boats could not enter them ; and secondly, but much more firmly, grew the idea that something special ought to be done to prevent an enemy's torpedo-boats from putting to sea at all.

The result was that while plans for protecting our home ports were considered, a new class of vessel called a "torpedo gun-boat" was produced in 1886-7. The "Rattlesnake," "Grasshopper," "Sandfly," and "Spider" were launched. These were vessels of 525 tons, 200 feet long, intended to steam 19 knots, with coal enough to carry them 2,400 miles at 10 knots. Their gun armament was one 4-inch gun and six 3-pounders, and they had two torpedo-tubes. These vessels were not considered wholly satisfactory after trial, and in 1888-9 improved "Rattlesnakes" were produced in the nine vessels of the "Sharpshooter" type. They were rather larger and intended to be rather faster than their fore-runners, and the armament was modified in the direction of fewer and heavier guns and increased torpedo power. They were of 735 tons displacement, and were again followed up in 1892-3 by eleven ships of the "Jason" class of 810 tons, with the same gun and torpedo armament as their predecessors and without any nominal increase of speed. The last developments in this direction are the five ships of the "Dryad" class, which have increased in displacement to 1,070 tons, with an increase in coal capacity and armament, but without an increase of speed, and with a reduction in torpedo power.

Now, although other ideas may have crossed and re-crossed the designs of these twenty-nine peculiar vessels, it seems clear enough that they must all have been intended to fill the *role* of the inshore squadron in a modern blockade, with special relation to the sealing-up of torpedo-

boats in their own ports. Their small size would enable them to creep close in to the blockaded port at night, which would be the time chosen for an enemy's torpedo-boats to put to sea. Their guns would especially threaten such vessels, while their torpedoes would be an even more complete threat to any larger vessels attempting to pass out. Their general sea-keeping qualities would enable them to persevere in this service, to draw off as daylight broke each morning, and to close the port as darkness fell at night.

For this particular duty it did not appear that very great excess in speed was necessary. Obviously, they ought not to have been slow vessels, because then torpedo-boats might have run past them with a sense of impunity. But it was to be supposed that an enemy desiring to send torpedo-boats to sea would think twice of letting them run the gauntlet of five or six, or perhaps eight or ten, of these vessels, which might be able to keep them for a considerable time under fire, and were bad marks for their own weapon—the torpedo.

The vessels came to be called "torpedo catchers," being corrupted from "torpedo-boat catchers." It was a bad name. It led to a general sort of belief that they were designed to chase and overhaul torpedo-boats in the open sea. They have, I believe, never been tried in their rôle of inshore watchers, but they have been tried and have been understood to fail in the rôle for which they could scarcely have been designed, namely, as torpedo-boat chasers in the open sea.

At any rate, those who were best acquainted with the management of torpedo-boats were loudest and strongest in their scorn of these vessels as anti-torpedo-boat agencies. They claimed that if the enemy's torpedo-boats were to be suppressed, it must be done by a class of vessel which was only a superior sort of torpedo-boat. There was much newspaper correspondence of a more or less anonymous character, but disclosing very strong feeling amongst the officers who were qualified torpedo men. The sense of the Admiralty was reached, and nine or ten torpedo-boats of greater size than usual were produced in 1893-4. While the largest boats of 1889 were 130 feet long and of 85 tons displacement, with 23 knots speed and 20 tons of coal, the 1893-4 boats were 140 feet long with 130 tons displacement, 23½ knots speed, and 25 tons of coal.

These vessels were so far a concession to the torpedo officers' demands for torpedo-boats to suppress torpedo-boats, and they had a gun-armament of three 3-pounders, doubtless intended to be employed on this service.

Immediately afterwards a great step was taken, when orders were given for the construction of forty-two vessels of an entirely new class, named "torpedo-boat destroyers." These vessels, of which the "Havock" was the earliest complete example, were from 180 to 210 feet long, and displaced from 220 to 277 tons. They steamed at the rate of from 27 to 29 knots an hour, carried 50 to 70 tons of coal; an armament generally of one 12-pounder and five 6-pounders, with a crew of forty-two to fifty men; and they had two or three torpedo-tubes.

The intended construction of these ships was announced in the First Lord's statement in 1893-4, and the earlier specimens of the class—the "Havock" and "Hornet," by Messrs. Yarrow—were tried in the early spring of 1894. The "Havock" was the first tried. She carried 60 tons of coal, which was estimated to take her 4,000 miles at 10 knots. That implied sea-keeping qualities approaching those of the latest types of battle-ships, and very much greater capacity than any of the so-called "torpedo catchers," now called first-class gun-boats, none of which have more than 2,800 miles of coal endurance. On the measured mile this vessel ran 26·78 knots, and for three hours over 26 knots an hour. Her total cost was £34,254.

On the 23rd of February, 1894, the second of the class, the "Hornet," was tried, and she ran the speed up to 28 knots.

In Lord Brassey's "Naval Annual" for 1895, Mr. Laird-Clowes, who is almost always excellent in the accuracy of his facts, gives none of the fifteen specimens which had been tried when he compiled his tables, less speed than that of the "Havock"—26·78 knots. All the rest show over 27 knots, and the fastest of them—the "Boxer"—rises to 29·31 knots.

Here we must note the remarkable case that is before us.

England has never directly or consciously threatened the battle-ship of the type which she herself has been the author of, and has upheld. She has hated and scouted the threat to her type of battle-ship which the steady progress of the torpedo-boat has developed. She has been all along most grudging of her assistance toward developing torpedo-boat warfare, and has more than any other nation devoted herself to developing the torpedo as the auxiliary weapon of the gun-ship. Her development of the battle-ship has followed historical analogy in sacrificing speed for fighting force with the gun as the weapon, and she has steadily turned her back equally on the exaggerated threatenings of a Gabriel Charnes, and on the more sober invitations to discussion emanating from Sir Nathaniel Barnaby and Admiral Harris.

And what has been the end of it all? She has been the author of the most tremendous attack on the position of the battle-ship which has yet been delivered, and she has done it in a sort of simplicity of heart, as in the belief that she was strengthening and guarding the position of her own splendid creations—the battle-ships of to-day.

In France, for instance, there was nothing like the "Daring." Her highest class boats were but improved torpedo-boats, with the disabilities attaching to them, which enabled us to smile at the hypothetical destruction of our fleets by the pamphleteer, and at the more measured warnings of M. Charnes when he pointed out that sixty torpedo-boats only equalled the cost of one battle-ship. The greatest displacement of any of the French sea-going torpedo-boats was under 150 tons; the highest speed was no doubt in two cases set down at 30 knots, but there was no such thing as a group of 27-knot boats, while 40 tons was the extreme coal stowage, and the faster boats carried under 20 tons.

We have seen how the idea of the torpedo-boat becoming the master of the battle-ship by attack in daylight in the open sea, took root,

flourished, and withered. It withered simply because the then torpedo-boat had neither the speed nor the sea-keeping qualities which were necessary.

Then followed the stage when it was universally admitted that the torpedo-boat as it stood was a port-guard of great potency against the advance of battle-ships. She was not admitted to be a general threat to the battle-ship, and the battle-ship was held to be as necessary as ever for the blockade of a port. The idea was to supplement her—not to abolish her—by something which had a tinge of protection in it, but was chiefly to be an enhancement of the battle-ship's power.

Then came the growing and intense fear of the torpedo-boat attack on ships in port, to be guarded against by provision of shelter harbours and blockades of torpedo-boats. We arrive at the admission that in war-time a battle-fleet dare not lie in an exposed anchorage—must be sheltered by piers, and chains, and booms. It is made quite plain that the only expenditure in works at Gibraltar as to which the Navy as a body is really anxious, is the provision of a close harbour where battle-ships and cruisers may rest in security and where anxious fears may be resped.

Then we, who are the leaders in this announcement of fear, produce a vessel which cannot suffer from such fears, and promises to keep the sea and lie in exposed anchorages in the immediate vicinity of the masses of the enemy's torpedo-boats.

A something has been produced which does not fear anything but its ditto. It has means of escape open to no other vessel, and is capable of facing, when in sufficient numbers, any type of existing battle-ship. In such an attack the safety of the battle-ship used to be her speed. She has altogether lost that superiority. In smooth water the torpedo-boat destroyer beats her by about 10 knots an hour.

There only wanted the one crowning admission to complete the position. "The prime use of torpedo-boat destroyers," says Captain Sturdee, in the Prize Essay for 1894, "is to destroy the enemy's boats, and they are now attached to fleets for the protection of the battle-ships."

Thus England, which has occupied the highest place in asserting the stability of the position in war to be taken by battle-ships of vast dimensions, heavily gunned and armoured, has become the foremost nation in denying that stability:—(1), by declaring provision of shelter harbours an absolute necessity; (2), by declaring that battle-ships at sea require the protection of torpedo-vessels; and (3), by producing a type of torpedo-vessel which must be more completely able to face the battle-ship than anything ever heard of before.

Her battle-ships have $17\frac{1}{2}$ knots speed; her torpedo-boat destroyers can overhaul them at the rate of 2,000 yards—good gun range—in six minutes.

She can put twenty-five of the destroyers afloat for what it costs her to put one battle-ship afloat. If she thinks of sending battle-ships and destroyers into action, she will only expose the same number of lives in fifteen destroyers that she will expose in one battle-ship.

What is the whole position?

It seems to be either of two things:—(1), that the whole theory of the battle-ship—being a something which can only be matched at the same cost by her ditto—is an idle dream; (2), that the destroyer is at present the battle-ship.

It is plain that fifteen destroyers acting together cannot now be matched, at the same cost, by anything else afloat. If it is still doubted that they would easily master one battle-ship in the open sea in broad daylight, it will scarcely be doubted that no one battle-ship would willingly attempt to drive them off the sea.

Then, how are we to speak of battle-ships commanding any sea, when it is a necessity for them to shelter in close harbours at night, and, therefore, to leave the enemy's torpedo-vessels in command of the waters they have quitted in fear of their lives? You cannot be in command of a sea and not in command, in the alternate hours of daylight and darkness. If you can keep the command of the sea in the hours of darkness, you can, because of that command, anchor your fleet in unprotected anchorages. To speak of command of the sea co-existing with the necessity for a walled-in port, is a contradiction in terms. If the latter is to be a necessity in future, command of the sea in future must be a mere remembrance.

I do not believe—I cannot believe—I never have believed—in compromises with principles. Such things exist, round and intact, or they do not exist at all; modifications of the principle on which the idea of a battle-ship rests may come about, but the principle will be killed by the modifications. Command of the sea may be modified, so that a battle-fleet lying in an open anchorage, has it in daylight, and loses it in darkness. But the principle of command of the sea is lost in the modification.

Look at it another way. France and our own country become silly enough to quarrel, and to go to war; France, not depending vitally on her seaborne commerce, closes it, and devotes herself to the destruction of ours. Our main object is to keep French war-ships off the sea, and shut up in their ports; and Brest is one of those ports which we are most anxious to blockade. We are told that we cannot send a battle-fleet off Ushant as we used to do, unless we send a fleet of torpedo-boat destroyers with it, to protect it. That is to say, we fear the French torpedo-boats in a way we do not fear the French battle-ships. Must not the converse prove true? Must not the French battle-ships in Brest fear the destroyers we propose to send over more than they fear our battle-ships?

Is not the conclusion inevitable? France will not send her battle-ships to sea, because of our destroyers off the port. We shall not send our battle-fleet to sea, because their work was being done by another force—the destroyers.

Suppose there are twenty battle-ships in Toulon, and our command in the Mediterranean depends on our ability to overawe them and keep them in port. We could not overawe them by sending twenty-five battle-ships off the port, because we acknowledge that these twenty-

five dare not challenge the torpedo-boats at Toulon. They are more afraid of the torpedo-boats than they are of the battle-ships. If it were not for the torpedo-boats they could lie watching quite comfortably at Madalena, in only an eager hope that the enemy might come out. Now they dare not. But they look to an occasional night's rest when they have raised the blockade, and gone to Gibraltar's close harbour to get some sleep.

But supposing we never sent a battle-ship near Toulon, but despatched thither a fleet of destroyers. Have we not then lifted the wet blanket of fear off our own shoulders, and cast it over the shoulders of the twenty battle-ships? Is it possible to imagine the French bringing out their battle-ships to defeat our destroyers? Is it not certain that they will employ some other form of vessel?

There is a considerable margin to work upon in the torpedo-ship. The torpedo-boat destroyers are not reported to be everything that is perfect. But a vessel which costs the twenty-fifth part of the cost of the battle-ship, and only exposes one-fifteenth of the number of lives, may evidently be made larger without greatly reducing her torpedo-force. She may be improved in speed, in sea-going and sea-keeping qualities without greatly reducing the numbers which can be put on one battle-ship with advantage. Already we are preparing for a 33-knot speed to match the increased speed of the latest battle-ships. Already an armoured torpedo-boat destroyer has been sent to sea. Must we not reasonably expect directly, the perfectly armoured torpedo-vessel; sea-going; sea-keeping; comfortable to live in; and with 7 or 8 knots more speed than any possible armoured gun-ship of present type?

Captain S. EARDLEY-WILMOT, R.N. (Retired):—On hearing this remarkable paper I do not know whether my feelings were more of admiration at the able way in which the arguments were marshalled before us, or of wonder at the conclusions at which the author had arrived. I suppose there is no person who has studied naval history with greater care than Admiral Colomb, and one of his conclusions is that when a type of ship has reached perfection it generally disappears. He observes that when the sailing-ship was brought to its greatest efficiency, it gave place to the wooden steam vessel; that when we gradually brought that to a high pitch of perfection in those splendid two and three deckers, such as the "Duke of Wellington" and the "Duncan," they also disappeared and gave place to the iron-clad. As the "Warrior" and many other successors are obsolete, he therefore views with apprehension our present type of battle-ship as likely to disappear also. It appears to me, however, that during that period from 1860 to 1880, we were more or less in the experimental stage. We had produced various types, and were not sure whether the broadside ironclad like the "Warrior," or the turret-ship like the "Devastation" was the best type. But in the present vessel it appears to me we have found the happiest combination of both types. We have in vessels like the "Royal Sovereign" and "Majestic" both the turret-ship and the broadside ironclad combined. We have put in them the best features of both classes, and it appears to me that this latest phase of battle-ship construction has come to stay. Admiral Colomb affirms that we must hold command of the sea, but sees in the future that command held by an improved torpedo-vessel. The arguments which to his mind seem to lead towards this conclusion are that the gun-ship is afraid of the torpedo-boat, and that because the battle-ship seeks the shelter of booms and under certain

conditions has to be guarded at sea against this particular form of attack, hence she loses command of the sea, which has, therefore, passed to the vessel of which she is afraid. Such reasoning may be carried too far, and is not altogether borne out by history. One instance only I will give, and that is the period of fire-ships. There was no doubt that the battle-ships of those days were very much afraid of the fire-ship. It was a great danger to them. Well, what was the effect of that? It did not do away with the sailing battle-ship and lead to the fire-ship being the embodiment of naval force. It simply led to methods being adopted of overcoming the danger, and one of the principal methods was that of ships sailing in line, by which they could more easily get out of the way of the fire-ships. This led to the gradual disappearance of the fire-ship. Then, again, there is a slight flaw in the reasoning as regards the protection of fleets at sea and also the antidote against torpedo-boats. It has been often stated that the "Rattlesnake" class were built specially to overcome torpedo-boats for the protection of fleets at sea against their attacks. That was not the case. As soon as torpedo-boats were seen to be a valuable adjunct to harbour defence, it was considered also desirable if possible to utilise them for sea-going purposes. If they could accompany fleets and be effectively used in action, they would constitute a serious danger to the ships. But experience had shown that the torpedo-boat was not capable of keeping the sea. The torpedo officers, therefore, demanded something which could keep to sea, but of the smallest possible dimensions, in which would be its principal defence. At first there seemed a difficulty in producing such a craft, and vessels of 1,500 and 1,600 tons—like the "Scout" and others—were built. That they were actually intended to be used like torpedo-boats may be assumed from the fact that they were to have eleven torpedo-tubes. As they did not fulfil the requirements—being too large—and as the French were building such a craft of about 350 tons, our contractors produced the "Rattlesnake," of 500 tons, which it was considered would be able to accompany fleets to sea and, under cover of smoke in a fleet action, make the attack with the torpedo. Well, Admiral Colomb sees in some form of torpedo-vessel the future representative of naval force. The destroyer is to him an alarming fact; but he also sees that the command of the sea cannot be held by a vessel of 300 tons, and, therefore, he forecasts an enlarged torpedo-ship, an armoured vessel with very high speed, 7 or 8 knots higher than the ordinary type. What is the result of this reasoning? The result is that such a vessel to possess these attributes must approach in dimensions to a battle-ship or large cruiser, and then, whilst you have been enlarging the torpedo-vessel to this ideal craft which is going to command the seas, and drive the battle-ship off them, you have produced a craft which is herself vulnerable to the attack of the destroyer.¹

Captain H. J. MAY, C.B., R.N.:—Admiral Colomb has given us a most thoughtful and historical lecture, but I fail to see in looking at the historical part that we are, as he seems to think, in the presence of something very new. He has traced with great care the development of the destroyer. He traces the rise, so I gather, of the destroyers from the "Lightning," of some 40 tons, and now he tells us that the destroyers are 230 to 270 tons, whereas before the building of the destroyers the nearest thing to them was the French torpedo craft of 150 tons. The destroyer's speed is 27 to 30 knots, and some of the French boats had already

¹ Though not foreseeing in the development of the torpedo the disappearance of the gun-ship, I consider this weapon the principal danger to the latter, and that it is not sufficiently recognised. The great effect of the torpedo, if successfully applied, is a strong argument against excessive dimensions of battle-ships, and in favour of a greater number of moderate-sized vessels. The torpedo has, however, had little influence upon construction, the tendency being either to ignore it altogether, or, as Pepys said, "to fortify ourselves, and not be ashamed."
—S. E. W.

a nominal speed at any rate of 27 knots. I cannot see, therefore, that we are face to face with a strikingly new craft. Admiral Colomb himself has told us most forcibly the disabilities of the old-fashioned craft. First and foremost, they could not keep the sea; secondly, their radius of action was exceedingly small; and, thirdly—I do not think Admiral Colomb touched upon this point, but it is a fact of which he knows well—they are most terribly vulnerable. The whole of the engines and boilers of a torpedo-boat present a mass of tubes and gear which the very smallest fragment of a shell will shatter, and thus put the vessel out of action; and the destroyers, seeing that their engines and boilers are much bigger, and therefore easier to hit, are far more vulnerable in this respect than the torpedo-boat. If Admiral Colomb had brought forward any facts as to the sea-keeping powers of the destroyers, then I think we might have thought that we should have to look at things afresh; but he has not done so, and, so far as I know, the destroyers have not proved the thorough sea-keeping craft that some of their designers hoped they would. At the present moment, if you go down to our ports, you will see a procession of destroyers going out in the morning; and you will see the same procession of destroyers coming in at night. At any rate, they are not exercised at keeping the sea; and, as a rule, we exercise our craft at anything they can do. Therefore, I doubt extremely whether we are going to send a fleet of destroyers to blockade Brest; and, if we did, whether the French would be afraid of them. Instead of the first gale of wind being, as it always was in the old days, an opportunity for the British craft to show their sea-keeping qualities and the excellence of the training, the first gale of wind would send at least three-quarters of the destroyers away from their stations—if not into harbour altogether. Then is the destroyer of no use? I do not think so. I consider that under certain conditions the destroyer can help the battle-ship, and under other conditions much more likely to occur, the battle-ship may help the destroyers. In the matter of keeping the sea, the battle-ship, or other ship of the escorting type, such as the big cruiser, can help to make life bearable, if not comfortable, to the men on board the destroyers; whilst, I believe, in the stress of action experience will finally prove that the destroyer, or similar craft, will be able to help the battle-ship by rushing into short range of the enemy and discharging her torpedoes when a favourable opportunity occurs. Indeed, I cannot see that because we have developed the destroyer we should do away with the battle-ship, or, conversely, if we stick to the battle-ship, that we should do away with the destroyer. I believe they are both useful to each other, and that we should retain them both.

Captain A. A. C. PARR, R.N. :—I must apologise for rising to say any word at all, because till this morning I did not know the subject of the lecture. It struck me that in the final conclusion of the lecturer, where he says that the type of vessel which he would advocate would be a larger and a protected torpedo-vessel, there might be some little difficulty in saying what the best type would be. If the torpedoes are to be carried above the water and are to be protected, the amount of armour will have to be considerable. When a considerable amount of armour is carried, of course the size of the vessel has to be very considerably increased. Unless the torpedoes are well protected they are liable to be damaged by the shell fire from the guns of the ship that they are attacking, as well as the vessel herself. The engines also, of course, have to be well protected, as Captain May said, or they will be damaged by the shell fire, and the vessel will be rendered useless. If the torpedoes are to be carried under water then it also means that the vessel is to be of large size, for space has to be found for the submerged tubes, and also in that case protection has to be found for the engines, or else, as I said before, they are liable to damage. Now, if we come to very high speeds we come to some vessel more or less of the type of the "Powerful" and "Terrible," which are taken up almost entirely with boilers and engines, leaving very little space indeed for any number of submerged tubes. Two tubes a side, or even three, I suppose, would

not be sufficient for the type of vessel which the lecturer would advocate, and, therefore, it seems a little difficult to know what the size of the vessel is to be, and if it is to be a large one. I have seen in the last few days several articles in the newspapers, some written without any knowledge of the subject at all, and others with more knowledge, but all rather saying that the gunnery in Her Majesty's ships is now at a low ebb, and that they are not capable of hitting—well, we will say a hay-stack—at very short range. Being in command of one of the battle-ships in the fleet and having carried out torpedo and gunnery practice quite recently, I may say that I do not think such a description is quite accurate, and that if we are given a large vessel to fire at the greater proportion of our shell will go into that vessel at a very considerable range; and unless she is very well protected indeed, before she comes within the range at which her torpedoes will be effective there will not be much of her left above water from which to fire them.

Major A. D. SETON, R.A. :—As a gunner who has an interest in naval tactics, it seems to me that the last speaker has really hit the nail on the head. The matter appears to turn very largely upon the question of Q.F. guns, which I think Admiral Colomb has not dwelt upon. He says in the first page of his paper :—"I have, in fact, ever since the present type began to show itself in the 'Devastation' and 'Thunderer,' looked for a change to a battle-ship of much smaller displacement, having a larger area covered with lighter armour, and carrying a broadside armament of more numerous and lighter guns." It seems to me that is the direction in which the development is more likely to take place than in that of the present type of destroyer. I think most people who look ahead will agree with him to a very large extent, that the present type of battle-ship, as such, has probably approached nearly to perfection; but the question arises whether the present type of torpedo-vessel, as such, has not also approached somewhat to perfection. The range of the torpedo is a very important item in this question, and from what I can learn it seems that there cannot, humanly speaking, be a much further development of range or accuracy in this weapon. It is at some disadvantages because of the element in which it moves, which in the matter of trajectory, visibility, and size, must always render it, as compared to a gun, a more or less unreliable weapon. Therefore, as the last speaker stated, the torpedo-vessel must come pretty close to make her torpedoes effective. Then the question of Q.F. guns comes in. The *Times* of the 7th of June had an account of the result of the last year's naval gun practice, in which it states that the average of twenty-one ships that fired fifty rounds and upwards in 1896, with 6-inch Q.F. guns, gave one hit to every four rounds, and with the 4·7, though the average was pulled down by some very bad scores, the practice of thirty-nine ships gave 29·7 per cent. of hits. The *Times* does not hold that up as being exactly good, but it seems, assuming that to be an average, without allowing for any improvement in material and training, such as sighting and so on, the matter of Q.F. guns will be a very awkward question for any unarmoured vessel to get over, if she is going to have one hit to every four rounds fired from 6-inch shells and 29 per cent. of hits with 4·7, to say nothing of smaller guns. Unless she is very securely armoured there is very little chance of her getting near enough to do any great amount of damage. As Captain Eardley-Wilmot says, increase of size brings increase of visibility, and it also means slower speed in most cases. There is a great distinction between a difference of 8 and 9 knots, between the speed of the torpedo-destroyer and the battle-ship, and a difference of something like 16 knots as at present; and it seems very doubtful if an improved destroyer can ever maintain this difference of speed. If you drop it down to 8 or 9 knots a great deal of the advantage goes. The point we must look to is to have vessels in the future somewhat of the class of the "Dupuy-de-Lôme" that the French have built, with thinner armour and more of it. I do not think it has been quite appreciated what the effect of a continuous fire of shell is. It is not probable that any one will waste

time pounding away with armour-piercing shot that can only carry at best dead metal into the ship, when they can explode a pound or two of powder in the same vessel in unarmoured parts.

Admiral H. BOYS:—Although I consider myself obsolete on this question, many years ago, as my friends here know, it came especially under my department as Director of Naval Ordnance. I have listened with pleasure to Admiral Colomb's lecture, and also to the remarks that have been made in the discussion. There is one point I should like to emphasise in respect to the chances of success in a torpedo attack. I think the article in the *Times* this morning or yesterday, in respect to the naval gunnery, is unsatisfactory and misleading altogether, especially to outsiders. You will observe that in the results given, the hits only are reckoned. The size of the target is not given, the distance is not given, the speed is not given, the size of the ships is not given, the state of the sea is not given, and all sailors know the greatest possible difference exists between gunnery practice from a large ship, and from a machine going fast, like a torpedo-boat or any other small craft, as far as the motion is concerned. The ship may be practically steady, firing almost as from the land, when a small torpedo-cruiser or boat going at high speed would be in most cases moving violently, and it would be almost impossible to take accurate aim. This is an important point in favour of the ship attacked in torpedo warfare.

Admiral COLOMB, in reply, said:—The only object a retired officer can have in reading a paper of this kind is to stir up thought, to draw attention to a set of conditions which demand study and consideration, if our progress is to be even and continuous. One speaker mentioned my "advocacy" of something. I have not advocated anything except study of the conditions. I believe that armoured torpedo-vessels will very soon be produced. I do not advocate them. Speakers seem to forget my old claim that our right course is always a middle one. We cannot go on indefinitely developing the battle-ship at one extreme, and her greatest enemy, the torpedo-vessel, at the other. Either one or the other will disappear if a mean cannot be found between them. If the armoured torpedo-vessel is at hand, she will not run to an extreme in armour, or in size, if she is to last. Captain Eardley-Wilmot used the fire-ship, as an illustration, telling against the position I take up. I do not lose sight of her, but she enforces the lesson I draw. She disappeared because it was not possible to combine the two kinds of fighting. My position is the impossibility of combining the two kinds of fighting represented by the battle-ship and the torpedo-vessel. Captain May and Captain Sturdee have both done their best to show how the battle-ships and the torpedo-boat destroyer may fight in company; nothing has yet been done better than Captain May's work in this way; but anyone studying these productions can only be struck by the extreme difficulty of combining the battle-ships and the torpedo-vessel in any fleet action. I understood Captain May to say that there was no probability of the torpedo-boat destroyers being sent to blockade. I was a very close student of the writings of torpedo officers that immediately preceded the advent of the torpedo-boat destroyer. I submitted myself for two or three nights to the officers assembled in the smoking-room of the "Vernon," and I certainly understood that the vessel called for, and now produced, was intended almost wholly as a blockader. I presume that Captain May does not mean to say that in his view the battle-fleet and the torpedo assistants might not be in the vicinity of the enemy's ports?

Captain MAY:—I think they can work in combination, but not the torpedo separately.

Admiral COLOMB:—Directly that comes to pass we see an impossibility. At night you would be bound to fire from your battle-ships on every torpedo-vessel you saw. You would sink your own torpedo-vessels, as it is well known we so often did in the manœuvres; and the fear of doing so would cause you either to take your battle-ships without torpedo-vessels or torpedo-vessels without battle-

ships into the enemy's waters. I think Captain Eardley-Wilmot's description of the reasons put forth officially for the production of the "Rattlesnake" class is correct. But then ideas crossed and re-crossed, and if you look back you will see that we looked on their chief functions to be exercised in blockade. They are still better calculated for that service than for any other. Something has been said about gun practice. I did not in my paper go into the question of what the practice would be from a battle-ship upon an approaching torpedo-vessel. But I have worked out the attack of eight torpedo-vessels with an excess of 7 knots speed upon four battle-ships, and find that the time allowed for sinking or disabling them is surprisingly short, and it looks as though the torpedo squadron would be bound to have one of the battle-ships, even if seven of them were stopped or disabled.

Captain MAY :—At night?

Admiral COLOMB :—Broad daylight. What I want to put before you, and what I hope I have put before you and before the Service, is the general set of conditions, the way in which they are pointing, and the preparation that we ought to make to meet sudden changes nearing us. The more I have studied these conditions—and I should tell you that this paper has been delayed for a couple of years because I did not think the time was ripe for reading it—the more the conclusions of the paper have forced themselves upon me. They may not be true, but my object is gained if I can set the Service to consider closely the curious conditions at present surrounding us, and whether we are prepared for such changes as they portend.

The CHAIRMAN (The Earl of Hopetoun) :—I feel certain that everybody will feel deeply grateful indeed to the Admiral for the very able and interesting paper which he has presented to the Institution. The paper is full of controversial matter. The discussion which followed the reading of the paper has been controversial, and I feel that I myself am in some danger of being drawn into the controversy; but I think, seeing that I am an amateur speaking before experts, I had better be extremely careful, and merely confine myself to summing up in a very few words the contents of the paper and the opinions put forward by other gentlemen in support of their contentions. The Admiral has prophesied an enormous, a stupendous, change which positively makes one's blood run cold to think of, because it entirely upsets all our preconceived ideas of naval warfare. He has told us that the battle-ship, as we know it, is to disappear, and that the gun is to be superseded entirely by the torpedo as a means of offence. He has traced in a most interesting manner the rise of the torpedo and the evolution of the torpedo-boat destroyer, and he has reminded us that in producing this wonderful vessel—the torpedo-boat destroyer—we have unconsciously put forward a very great threat against the existence of the battle-ship. But, gentlemen, granted that the battle-ship as we know her to-day is doomed, every poison has its antidote. We know that when shells made wood ships impossible, iron ships were produced, and they were covered with armour. When the torpedo-boat began to be regarded as a serious danger, the Q.F. gun was produced. May it not be possible that at some future date an antidote may be found even to the torpedo-boat destroyer? The Admiral allows and affirms that a fleet of battle-ships of some kind or other will be necessary; the only question is:—of what type are those battle-ships to be? I do not suppose that anybody can contend that the present magnificent type of battle-ship which we have is for all time to be the embodiment of the sea-power of a great maritime country. Science is too restless for that. We cannot hope to go back to those comfortable, jog-trot times when, for nearly 200 years, one particular type of vessel satisfied all the requirements of naval warfare. But the Admiral has also reminded us that when a type reaches perfection it generally disappears. I venture to remind him that it does not disappear all of a sudden.

It disappears slowly and steadily, by various stages and modifications. It does seem as if we had come very near perfection in our present battle-ships, because, if I may remind you, we have built, or are building, or are preparing to build at the present moment, close on thirty ships of almost the same type—I mean the "Majestics," "Royal Sovereigns," and that class which is known as the "Canopus." There are small differences between them, but still, taking them generally, they represent one type of battle-ship, and it is hardly probable that our expert naval authorities would have ventured to back their opinion to the extent of nearly thirty ships, unless they had been pretty nearly certain that they had reached what would be, for some time to come at any rate, perfection. However, gentlemen, there is very little doubt that we shall go on improving, and that modifications will take place, and it is possible that these modifications may be very much governed by the apotheosis of the torpedo. But whatever our opinions may be on this subject, whether we shelter ourselves behind the impregnable armour of the battle-ship or whether we favour the triumphant torpedo, on one subject I feel certain that we entirely agree, and that is, that our very warm thanks are due to the Admiral for his interesting paper.

THE PSYCHOLOGY OF THE BATTLE-FIELD.

By WILLIAM V. HERBERT, Esq., late Captain, Turkish Army.

Wednesday, May 5th, 1897.

Colonel LONSDALE HALE, late R.E., in the Chair.

THE CHAIRMAN :—Gentlemen, I have very much pleasure in introducing to you the lecturer of the afternoon, Captain William V. Herbert, late of the Turkish Army. Captain Herbert is well known to most military men as the author of that most valuable work, "The Defence of Plevna," and he is also the author of a work, which is not only valuable, but fascinating, "The Chronicles of a Virgin Fortress," which, if you have not already read, I recommend you to read. Captain Herbert's appearance this afternoon, and the subject he has chosen, is most opportune, because two or three of us have been lately lecturing on military history, and talking about the deeds of the battle-field; and many of those deeds, taken together and simply in their physical aspect, are self-contradictory, and present problems almost insoluble. Captain Herbert, in bringing before us the Psychology, as he calls it, of the battle-field—the mental condition—will, I am sure, give us a clue to the solution of many of those problems. Nobody will listen to you, Captain Herbert, with deeper interest than those who have studied military history.

LECTURE.

I WISH, gentlemen, first to correct a mistake in the advertised title of my paper. Warfare generally, as apart from the battle-field, exhibits a different kind of resistance on the part of those who are engaged in it, than the battle-field itself. These two kinds of resistance are generally called Active and Passive; but the names are misnomers. There is no passive resistance in warfare—all is active. You will find, however, as I proceed, that the battle-field gives scope for a class of resistance different to that of the other incidents of warfare generally—to marches, manœuvres, and camp life; and since the two together are too vast a subject for a one-hour's paper, I have chosen the battle-field by itself, hoping to be able to address you at some future time on the other subject. My subject to-day, therefore, is the Psychology of the Battle-field.

The science of psychology—of the working of the human mind—is as old as science itself. It seems to have formed a favourite subject of speculation with some of the old Greek philosophers. But only in recent times has it been applied to the peculiar conditions which obtain on the battle-field. The great leaders of ancient and mediæval times had no

idea of—or else wilfully ignored—the fact that the human mind is a factor in warfare at least as important as numerical strength, armament, or the faculty of command. They considered their armies as aggregates of so many units of more or less perfectly-developed fighting animals. Xerxes, Attila, Alaric, Charles Martel, Henry I. of Germany, the Black Prince of England, are all cases in point, chosen at random among scores of others that could be named. Xerxes is, perhaps, the most striking instance—who, the master of millions, counted his troops periodically (if we are to believe the recorded story) by driving them into fenced-in places warranted to contain so many hundreds of two-legged, soulless, armed animals. A perusal of the historical books of the Old Testament will impress you in the same wise. Exceptions in a certain limited sense were, perhaps, some few Greek leaders: Leonidas, Miltiades, Themistocles—the latter himself a bit of a philosopher and psychologist; especially Leonidas, with his sublime sacrifice in the defile of Thermopylæ, one of the grandest and most soul-stirring episodes of recorded history, which used to fire my blood, when I was a schoolboy, in a manner that I recall now, in sober middle-life, with the utmost vividness. Hannibal might also be mentioned as an exception. The most reputed leaders of modern times, Frederick the Great and Napoleon, although they knew that the development of the soldier's mind is as much an essential to success as that of his body, appear not to have acted up to their knowledge in the manner that might have been expected of such consummate masters. Broadly speaking, their practical application of psychology was confined to a right royal condescension, and to a certain good humour. The latter factor, by the way, is not to be despised by commanders. At Leuthen, certainly, Frederick appears to have acted up to the knowledge of the human mind which he, the philosopher, must have possessed. I refer you to Carlyle's splendid account, and particularly to Frederick's speech to his assembled generals, which preceded that stupendous battle, in which 20,000 Prussians almost annihilated the Austrian Army of 90,000. Frederick positively commanded his generals either to be victorious or to die. He himself would take the lead in this terrible alternative, and he had made all preparations for his own dignified exit. The result was, not only one of the most brilliant, but also one of the most honourable, victories recorded in history.

In Moltke a new factor arose. I refer you to the German writers on this subject, particularly to Hoenig, and again especially to the latter's fine work "Two Brigades." By the way, this book has sold in Germany in 20,000 copies, and gone through several editions. I once offered to one of our best publishers the task of translating it into English. Their reply was, they could not expect to sell more than 200 copies of such a work. Unanswered question: Why is there only one English reader to a hundred German readers?

In recent times, Suleiman at Shipka, Prince Alexander of Battenberg at Slivintza, are noteworthy examples of leaders whose superior minds influenced the minds of the men whom they commanded, and at the risk of appearing partial I must also mention Osman at Plevna.

Having now finished a very brief and sketchy historical retrospect, I come to the first half of my address, namely, the components and conditions of fighting troops and battle-fields. My second half will be the practical application of these components and these conditions.

As my first part, I shall take the constituents of a body of fighting men—say a company of infantry. Nobody who has ever led troops in the field will contradict my assertion that absolute heroes and absolute cowards form an insignificant minority; that the vast majority are ordinary average men. Allow me to define these three terms.

“Absolute heroes.” We have Carlyle’s authority for saying that a hero—meaning, of course, a hero accomplished—is a man who has sacrificed his life to an idea. That idea may be right or erroneous—it makes no difference to his heroism. Therefore, absolute heroes among soldiers—heroes accomplished or possible—are men ever ready to sacrifice their lives to an idea, that idea being the salvation of their country.

By analogy we arrive at the definition that “absolute cowards” are men never willing to sacrifice their lives—in other words, men totally deficient in all such qualities as act on the battle-field as counterpoises to the fear of death natural to man: patriotism, piety, faith, pride, vanity, conceit, gratitude, loyalty to cause, king, or country.

By a further analogy we arrive at the definition that “average men” are men in whom the normal, natural, and perfectly praiseworthy love of life can be overcome only in certain exceptional conditions, and by certain exceptional causes. It will be one of my points later on that there are two such causes: early training, and the superior will-power of other men—that is, of leaders.

As my second part, I shall take the conditions of the battle-field. I shall consider them as apart from the general conditions which obtain in every warfare, and which are mostly self-evident. I need only allude to such active forces as patriotism, loyalty, enthusiasm, religion.

I shall divide the conditions of the battle-field under two heads: those favourable to success, and those unfavourable to success.

The most important of the conditions favourable to success is, to my mind, the enormous increase of vitality. By vitality, I mean the active and positive force; not a symbol or a fanciful name for an abstract thing, in which latter sense novelists and poets use the word. Vitality, I take it, is the power of the body to resist the forces of destruction. Poets call by that name a different thing: that which the French have named *la joie de vivre*, which plays so important a part in Ibsen’s dramas. Vitality, in my sense, is—so physicians and psychologists tell us—a measurable force; and it only remains for some great scientist to fix, discover, or invent a unit of measurement, in which case vitality could be registered by a scale of figures, the same as length or weight. For instance, we are told that vitality undergoes certain regular fluctuations during the cycle of twenty-four hours: it is lowest an hour before dawn, and highest, I think, midway between sunrise and noonday. That vitality is tremendous, is raging fast and furious, when men play for their lives, no one will deny

who has been favoured with a personal introduction to the "field of blood and mud." Do you not recall the lightness and swiftness of your limbs, the force of your muscles, the keenness of your senses, the delight with which your lungs drank in the fresh air blowing across the fields, as your memory lingers lovingly over those stupendous hours? Do you not remember how beautiful the trees, how fresh and green the fields, how glorious the sky appeared to you when, with heart beating high, you pass in thought once more through those soul-stirring scenes? And do you not recollect the magnificent sense of taking part in the making of history? All these are but tokens or expressions of the increased power of your body to resist the forces of destruction. Are there not hundreds of recorded cases of men having been for many minutes quite unaware of wounds which, in normal conditions, would have laid them low there and then? I take it that this increase of vitality is due to the presence of large numbers of fellow creatures. One body acts upon the other. I once laid it down—and, so far as I know, I have not been contradicted—that vitality increases in proportion to the square of the individuals, roughly speaking, of course. Taking the vitality of one isolated individual as one, then that of two together would be as four, of three as nine. There is a perfectly logical natural-history explanation of this phenomenon, with which I need not trouble you, as it forms no part of my subject; but there is a well-known analogy in astronomy which I shall just mention, as it is so very curious. It was, I think, Sir Robert Ball who first drew attention to the fact that the approach of two heavenly bodies causes an increase of the vital forces on either; and I have read in an astronomical work a curious speculation of what would happen on earth if Mars came at any time within half the distance which is now its nearest possible proximity. I saw predicted something of this kind: that orchards and forests would grow in the tunnels of the Underground Railway, that cats and dogs would have litters of half a hundred, and that the very paving-stones would sprout.

As the second factor favourable to success, I need but allude to the increase of vanity, hundreds and sometimes thousands being eye-witnesses to a single deed of courage or devotion.

The third factor is the increased influence of leaders, owing to that which—for want of a better term—I shall call the stress of time. We all know that our units of time are arbitrarily fixed. We have as the minor unit the duration of this globe's evolution around its axis, and call it a day; and as the major unit the duration of its journey around the parent globe, and call it a year. But these units do not hold good even for other planets, leave alone for the vast constellations beyond. Does not the Bible speak of the thousand years that shall be as one day, and the one day that shall be as a thousand years? Who shall predict the standard of time to be applied to the measurement of eternity? No one can and dare, as no one can fix a unit of space for the measurement of infinitude.¹

¹ Modern philosophy maintains that Time is non-existent, except as a necessary pre-condition to thought. Unfortunately, the mind is apt to give way when pondering too much over such awful problems.

Time is not to be measured by meaningless earthly units, but by the events crowded into a given space. The battle of six hours may contain to him engaged in it the processes of a decade. You who have been on a battle-field, do you recall that terrific charge, when all the forces of Hades seemed to have run riot in crazy, ceaseless, apparently never-ending turmoil and devilry? It appeared to you that an hour at least had passed from the first contact until, mad and panting, you found yourself in possession of the field. But the hands of your watch have duly chronicled that the fray lasted exactly three minutes. Again, you remember the anxious watching and waiting in this ditch, or behind that low knoll, or in the "dead angle" of yonder slope—you think it lasted for an eternity of unspeakable anxiety and sickening suspense. The watch says it lasted twenty minutes. Or, per contrary, there was that joyous pursuit of the routed foe across the hard-won battle-ground, with snatches of gay songs, and wild jokes flying from rank to rank. It appeared to you like an all too brief afternoon promenade. In reality it lasted from high noon until nightfall. These peculiar time conditions cause an intensification of all the forces that act upon the mind, amongst them the influence of the leaders; and that is my point.

Another factor favourable to success is the peculiar glamour of warfare, apparent to the senses of sight, hearing, and smell. I refer to music, drums, smoke, gay uniforms, and so forth. This is a factor that commanders should develop.

Again, love of fame and respect for the opinion of posterity play their part. Battles alone survive in popular recollection; terrific marches and skilful manœuvres are forgotten. Courage attracts; patience and long-suffering generally repel. Under the same head come the examples of former leaders and past victories. To develop this factor, national history should be studied assiduously by all classes and at all times. History is to a nation what the personal experience of past years is to an individual. I shall refer to this point again presently.

As the last factor favourable to success, I shall mention the knowledge of fighting for the existence of home and of family, obtainable particularly in the case of defended towns, and of invasion generally. Plevna is a case in point, and there are many French cases in the latter half of the campaign of 1870-71.

I come now to the conditions which are unfavourable to success on the battle-field. The first and most important of these is naturally the love of life and the fear of mutilation and death. The love of life is natural to man. The fear of death is the same thing expressed in different words. One is positive and the other is negative. The fear of mutilation is even greater than the fear of death. When, some years ago, somebody pretended to have invented a bullet-proof cuirass, I wrote to the papers, and I think the *Chronicle* and the *Times* published my letter, to say that what we wanted was not a coat to prevent death, but a coat to prevent mutilation and wounds. Those are far more formidable, and so far as my knowledge goes, much more dreaded than absolute extinction. I went to a German school, and I remember very vividly the way in which the

fear of death, which is natural to children as well as to grown-up men, is overcome in the training of German schoolboys. I remember distinctly that I had once to copy out, I think a thousand times, Schiller's famous quotation, "Death is not the greatest of all boons, but the greatest of all evils is guilt," because I had, on a particular occasion, refused to assist a boy who had fallen into a pond.

My second factor unfavourable to success is the fact that Christian denominations—all those that I know of—brand sudden death as a deplorable catastrophe, followed with results which can hardly be mentioned; and for these reasons these denominations enjoin a long course of preparation and even ceremonies to precede death. There is no need to comment upon this fact; it speaks for itself. Bacon speaks of it tersely and beautifully.

My third and last factor unfavourable to success is the desire, natural to all men, of preservation for the sake of family ties; and this is particularly and painfully predominant in the case of bread-winners who have no savings, no capital, and no provisions for those whom they may leave behind. I do not know how you English would act in such a case, but I remember vividly the collections for the widows and orphans in Germany in 1870, collections which amounted to several millions, sufficient to provide moderately for every widow and orphan whom the war had made such.

I come now to my third part: the components of the battle-field. Most battles are fought in the open country; and as marches and manœuvres are difficult or impossible in deserts and barren land, battles mostly takes place in fertile, that is, in beautiful country. Scores of modern actions have been fought out amid lovely surroundings—Königgrätz, Wörth, Gravelotte, Plevna, Shipka, and many others. Again, campaigns mostly take place, if a choice can at all be made, in summer, and if the choice of any particular day can be made, a fine day is selected for action. The components of the battle-field are, therefore, generally speaking, hill and dale, forest, meadows, valleys, with sunshine, warmth, and blue sky. It is to be feared that these constituents add to the love of life and the horror of death. It is, I know from my own experience, very much easier to be ready to die in a desolate country, when the winds are blowing furiously and the rain is coming down in torrents. I remember the night intervening between the two days of the third Plevna battle, of the 11th to the 12th of September, 1877, when the weather was so awful that I would have been glad to die there and then, not because the Russians were doing me any harm, but because I had to spend the night in a wet ditch with the rain coming down ceaselessly. There are a few exceptions of battles fought in bad weather. For instance, Königgrätz was fought when it was overcast and rainy all day long; and the fourth Plevna battle was fought in snow. The third I have already mentioned. These exhibit a very much greater devotion and a correspondingly greater loss of life.

I come now to the second half of my discourse, the application of the given conditions. Since the vast majority of men in a given body of

men are neither heroes nor cowards, but ordinary average human creatures, "healthy animals" as defined by a well-known labour politician,¹ it follows that the unfavourable conditions which I have just mentioned must be overcome by a predominance of the favourable conditions, if success is to be obtained. There are two factors which can work this: the first being early teaching and training, and the second the will-power of natural leaders.

As regards early training and teaching, I have already mentioned the study of history. I am sure, from what I have seen lately, and if I am mistaken you will correct me, that the study of history is sadly neglected in England, particularly the study of national history. Then, secondly, there is the early instillation (I mean the instillation into the minds of children) of the virtues of patriotism, loyalty, and intelligent national pride. I do not think this is neglected in England, but it is neglected in a good many countries that I know of, selecting from my own experience the Republics of South America, where ignorance as regards national history is so great that some people I spoke to hardly knew the name of the country in which they were living. And yet those Republics have a glorious record in their wars of liberation against Spain. Thirdly, I think the inviolable doctrine that earthly life is not the highest of possessions, that under exceptional conditions it becomes one of the least and lowest, ought to be taught, to children particularly. I remind you of Hoenig's well-known paradox that "The resolution to die forms that moment in a human life when vitality reaches its highest pitch of perfection."

I come now to the will-power of natural leaders—the second factor which enables the favourable conditions of the battle-field to predominate over the unfavourable ones. Will-power: this used to be considered as an abstract thing, as a poetical name for a thing which had its existence only in the minds of writers—particularly of poets; but recent researches have caused this will-power to be considered as much a living power as any other living and real power that we know of, as much as electricity or steam. There is a very striking instance in history: Attila. To quote Professor Hodgkins in his "Italy and her Invaders," it was that "snub-nosed, squint-eyed, undersized Kalmük," who practically conquered Europe and dictated peace to almighty Rome. I also remind you of an utterance of Josephus, the Jewish writer contemporary with the beginning of the Christian Era, who appears to have experienced in his own person the enormous power of the human will. The quotation is as follows:—"Man does not yield himself to death, or to destruction utterly, save by the weakness of his own feeble will." In other words, man does not die because his body is ending its course; he dies because his mind is weak.

I used the term "natural leaders." Necessarily, we think at once of those who are appointed by State and endowed with certain ranks and titles and salaries—that is, the officers. But there are guiding spirits to

¹Mr. John Burns in the discussion on the Empire Theatre license.

be found in every community amongst the ordinary mortals, in every unit of troops, in every assembly of human beings, in all conditions of life. Aye, among the labourers in every workshop there is a small proportion of men who are, by natural selection, the guiding spirits of the bulk, for good or for evil. Naturally, in an Army, the guiding spirits for evil ought to be eliminated entirely; but the guiding spirits for good amongst any mortals ought to be studied and brought forward. How this is to be done I cannot explain, because I am not conversant with the organisation of the English Army. These guiding spirits are not necessarily born heroes; they may be ordinary mortals as much as the rest, so far as courage or cowardice are concerned, but they are men who own the capacity to bring their will to bear upon the wills of others. These are the men that in the battle-field will throw their moral weight into the scale, and will decide the fate of a phase of an action, and often the issue of a war and the fate of a nation. I remember, in my own company, three or four of these guiding spirits who could be relied upon under any circumstances to cause the rest to follow them, for good or for evil. If these guiding spirits had been told privately to go and plunder and burn a farm-house, they would have done it, and all the rest would have followed. And if they had been told privately to sacrifice their lives for the sake of another body of troops, they would have done just the same, and the rest of them would have followed as eagerly. I think there is not a single condition of life in which, amongst a given body of men, there is not to be found a certain portion who will, in all circumstances and in all cases, lead the others—sometimes to good and sometimes to evil.

Here I must make a digression. When I was a youngster, General Steinmetz was an acquaintance of my father, and used to come to my father's house occasionally. I remember once being present at a discussion between several officers and gentlemen, among whom was Steinmetz. They spoke of the need of every man always obeying certain laws, and so forth. I have no actual recollection of what had been said, but I do remember that Steinmetz put his fist down on the table, with more noise than was necessary perhaps, and said something of this kind—I am quoting his words so far as I can remember them:—"I know only one law; that law is my own will. What I will is law, and what I will not is prohibition." Now, these things happened very nearly twenty years ago. The whole scene is vividly impressed upon my mind, although I was only a boy at the time. Still, the details of the discussion may have escaped me, and it is quite possible that in what I am now going to say I am speaking more my own mind than Steinmetz's. But, whatever I may say, it is certainly caused by something that Steinmetz said on that occasion. He said:—Every properly-developed man knows only one law, that is his own will. He has no other law, neither Divine nor human, neither written nor traditional. But, he continued, as we are taught by religion to believe—and Steinmetz was very devout—that the soul of man is a portion of the soul of the universe, that means a portion of God, so is the will of man a fraction of Divine volition, an infinitesimal fraction I daresay, but a fraction nevertheless, and the two coincide in their

eternal purpose, that purpose being the advancement of the race towards the goal of perfect manhood—that means towards Godhead. Whether that goal can ever be reached is not the question, but that we are approaching it steadily the recorded history of the last 3,000 years proves. Thus, if the human will be uncorrupted by alien circumstances and unperturbed into alien channels, the will of man coincides with Divine law, and consequently also with human law, since human law in every well-regulated State is only a production on paper of a certain part of Divine law; and in this wise Steinmetz proved to his own satisfaction—I do not know how much to other people's—that the theory of the supreme power of the human will is perfectly consistent with established religious doctrine. I was very much impressed at the time by what he said, and I have since then considered his theory as unanswerable. On the occasion of this discussion Steinmetz used another phrase, which, at a later date, he produced in writing—I forget now in which essay or paper—a phrase which is frequently quoted in Germany, although I have never heard it quoted in England. It is so curious that, at the risk of creating some amusement, I will mention it. He said:—"There are only three things in human life which are worth a man's while to serve with the utmost devotion of heart and head and body, and those three things are: a man's God, a man's king, and a man's wife." This quotation is used in Germany to denote Steinmetz's character.

Now I come to the application of the two principles—namely, early training, and the supreme power of the human will—to the peculiar conditions which obtain on the battle-field. Necessarily the training of every soldier includes the instillation of obedience. But obedience is taught, so far as I remember and so far as my own experience goes, as a disagreeable necessity; whereas, with the same amount of trouble and with far better effect, obedience might be taught as a virtue. Mark the difference: necessity is always an evil, virtue is always a good. Taking for granted that at some future time in England a tolerably intimate knowledge of national history will form part of the mental outfit of every person and of every private soldier, then this knowledge will engender gratitude to the country and to the reigning dynasty; in other words, patriotism and loyalty, a sense of the commonweal and of the duties which are due to the community and to human society; and, as a natural consequence, the state of being always prepared to make certain sacrifices for these things. Add to these virtues the capacity of avoiding past blunders, and profiting by past successes and by past blunders, which things are the result of the study of history; the virtue of obedience; and an intelligent comprehension of the particular causes for which that particular war is fought—I say *intelligent* comprehension—this combination of virtues, all perfectly natural and easily attainable, will cause a preponderance of the conditions favourable to success.

An *intelligent* comprehension of the cause for which a particular war is fought: This is not always so, and there is a striking instance in history, in the war of 1885 between Servia and Bulgaria. It is a matter of history that when the Servian soldiers went into the war, nine out of

ten did not know against whom they were being led. They thought they were going to fight the Turks, and found themselves suddenly face to face with their own kinsmen in religion and in race. Such blunders ought to be avoided. Fancy such a thing happening with England—a body of troops being led to fight, as they thought, against the Matabeles or against the Boers, and finding themselves suddenly face to face with the Germans or the French. That the Servians were beaten under those conditions is not to be wondered at.

As regards the study of history, I might make a digression in favour of the Turks. Now, I have myself studied history in the Academy of Constantinople, and I know what the study of Turkish history means there. Every defeat the Turks have ever suffered is wiped out. It finds no place in the printed or written records. There is a well-known instance of this. When the Janissaries, in the year 1801, rebelled against the established authority of the Sultan, and twenty-five years later in 1826, in Constantinople, were exterminated, the Sultan caused the name "Janissary" to be cursed by the priests in a most solemn and dreadful manner, and made it a capital offence for any person to ever pronounce the name, or to write it or reproduce it in any book or document. This study of Turkish history was a thing well known to Moltke, and I may remind you of his assertion that "the Turks wrote inflated bombast and called it history." Certainly history ought to be something very different to inflated bombast. There are English books on national history which, so far as I have seen, are nothing more or less than inflated bombast, and I speak particularly of books for children.

I come now to the application of the second condition—the influence of will-power. Since the vast majority of soldiers are ordinary average men, it follows these men must be swayed by the few elect, whether these elect are recognised by rank or not, whether they are officers or merely brethren and comrades. These average men all possess a will-power of their own. But this will-power is either dormant (weaklings) or at the best it is imperfectly developed, that is, they are indifferent men. When the will-power is non-existent, we have before us a fool or an idiot. If this will-power is directed into alien channels we have men with false instincts or false impulses, and that means men with vice. If directed into pernicious channels, we have criminals, or possible criminals. I do not speak of men who are murderers or thieves, but of men who have such a condition of character appertaining to them that under given conditions they will become murderers or thieves. For all such men others must will, and necessarily the officers are those who ought to see that their will is brought to bear upon the rest. Officers have to look a little before them to subdue the will of their men to their own. In most cases they will have at their disposal many weeks of preparation during camp life, marching, and manœuvres, for the tremendous climax of the battle-field. On the battle-field, the predominant will-power of even a single company officer, a single lieutenant, may decide the fate of the battle. Cases have been known and are recorded where this influence has existed, and it is a very real living power, sometimes used to false

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ends, as is proved by the history of military revolts in all ages and all countries. There is a striking instance in modern history, that is, the Rustchuk rebellion of 1887, the great military rebellion of Bulgaria. There were two battalions of Bulgarian Engineers loyal to the Government, not a traitor of any kind amongst them. But one man, a Major Usunoff, thought it worth his while to upset the Government, was, in fact, bribed to do so; and by bringing his own will-power to bear on those two battalions of entirely loyal soldiers, he by degrees corrupted the lot of them, and when he finally rebelled he had them at his disposal. All of them followed him blindly into the street fights, and also into the disgrace which was the result of this rebellion. There are scores of such instances in war.

I can only just mention the next and last part of my subject. In speaking of men who ought to be incapacitated from being soldiers, and who are certainly an element of great danger on the battle-field, I leave out of the question cases which are self-evident, such as men addicted to vices or notorious bad livers. Leaving these out of the question, there are two classes of men which I think, under no conditions, ought to be allowed to be soldiers. The first is malcontents—men who have a spite against their country. It is out of such men that traitors and spies are formed. This is so clear, that I think I need not prove it. I have had cases in my own knowledge, and cases I dare say have happened to everybody who has been on active service, of finding that certain men become traitors for no other reason than, perhaps, that years ago their country did them some harm—real or imaginary. There are cases known to German authorities of men having become spies for no other reason than that they had been summoned to pay their taxes, or an execution had been levied upon them for not having paid taxes. It is impossible to avoid such hardships, because taxes must be paid; but, at the same time, I think it is wise not to make more people dissatisfied than is absolutely necessary.

The second class of men who, I think, ought to be incapacitated from being soldiers are degenerates. Degeneration is a grand new name for a very old thing. Degeneration, as proved by Lombroso, Binet, and Nordau, in their recent researches, is an illness of the nerve centres, which affects the working of the brain. The illness is very old, but the name is brand-new. This illness is due to the exhaustion of a certain section of the race. Races and families were exhausted four or five thousand years ago, and that we are not all degenerates nowadays is caused by the fact that degenerates are generally childless, or their children are childless, and therefore the race dies a natural death. Whatever may be the difference of opinion of the various experts, they all have arrived at this conclusion—that degenerates are unable to perform any duties for the doing of which a connected train of argument is required, because with them and in them the "current" has been interrupted between the conceptions of cause and effect. Degenerates, therefore, may be geniuses in painting and music, and may be very good men in handicraft or manual

labour; but they cannot, under any circumstances or any conditions, perform duties for the doing of which a connected process of argument may be requisite. For instance, they cannot be, or ought not to be, sentries or on posts of observation, or reconnoitring, or entrusted with the transmission of orders, or with the command of others. These men have their senses perfectly unimpaired, but the nerves do not convey the pictures to the brain; in other words, the perception of the senses causes no definite idea in their minds. For instance, degenerates will hear the noise of wheels, but will not be able to argue therefrom that a cart is approaching. There are several cases I remember in my own experience, although at the time the name "degeneration" had not been invented yet. Whenever we got a train of carts with provisions from our central quarters in town to our redoubt, this train was generally accompanied by several carts loaded with hay; and, if the wind was favourable, the smell of hay used to arrive hours before the carts themselves arrived. This smell of hay used to make us say, "Oh, I am smelling hay; now we shall have a good dinner by and by." This train of argument is perfectly natural; it is so easy that even dogs and cats practise it. For instance, a dog who smells cooking will argue therefrom that his dinner is near. But I remember two or three cases of men who smelt the hay, and said so; but, until they were taught by mechanical means, they could never argue that the smell of hay proceeded from carts, some of which were laden with hay, and that this train of carts meant provisions, and that on the provisions arriving they would have a better dinner on that day than there had been on the day before. I say this train of argument is so clear and so simple that a cat or a dog will practise it, but degenerates cannot. There is another case I remember. There is an exposed point at which a sentry is standing, in the darkness, and some few hundred yards in advance is a farm-house, which farm-house this sentry knows to be deserted. In the middle of his watch he hears a dog's bark proceeding from the farm-house. He says to himself, "I hear a dog bark, but it is nothing to me. I am not placed here to watch dogs." Whereas an intelligent man would argue that a dog which barked has been made to bark by some circumstance, and that this circumstance is quite as likely as not to be the approach of an enemy. In any case, I consider that a sound man would be on the alert from the moment he heard the bark of a dog. A normal man would be more attentive than he had been before, a degenerate would not.

How degenerates are to be found out, is another question. Lombroso, Nordau, and Binet have laid down certain physical deformities or peculiarities to which they have given the name of "stigmata," but they also admit that there are quite as many degenerates who have not these stigmata as there are who have them, and that there are many men who have some such fault and who are yet quite sound. Therefore, the physical stigmata can offer nothing. There are a good many mental stigmata, but I have only referred to one, which is very striking, and which I think should be clearly recognised in warfare. It is, I repeat, the absence of the "current" between the conceptions of cause and effect.

A degenerate cannot argue from cause to effect, and *vice versa*, although any ordinary mortal can do so. Degenerates, I emphasise it, are men who are absolutely and positively incapable of being soldiers.

To wind up: We know from our experience in private life, particularly nowadays, when life is nothing more or less than a whole long train of fights against somebody or something, that in every man, even in the fool, there are slumbering certain stupendous possibilities. The latent powers of resistance and endurance in man are enormous. Generally, these powers are brought out against the forces of Nature and against the forces of private life, in other words, against the forces of competition; but the battle-field exhibits the powers invented by man for the purpose of destruction. These powers of destruction are very much greater than any we find under ordinary circumstances; and, therefore, the battle-field is a place to bring out men's powers of resistance and endurance, and to yield the stupendous possibilities which are latent in all men; and the persons to bring them out are necessarily those appointed by the State to supervise others, endowed with certain ranks and titles and wages for performing that duty, namely, officers. To bring these points out, I should lay aside all drill-books and all books upon tactics and kindred science, for these start from the mistaken idea that all men are always obedient, reliable, and courageous; whereas I think I have made it clear that the greater number of men are ordinary average human beings, who may be swayed either way. Let drill-books and books of tactics be studied for their proper ends, that is, to learn drill and the science of tactics; but they can have no influence upon any officer who wishes to bring his mind or will to bear on the men under him. The officer who, in the tumult of battle, cannot bring his will to bear, immediately and irresistibly, upon the minds of those who are placed under him, has certainly failed in one of the elementary duties of his profession, and such a man, I take it, had much better embrace a calling of private life and of less ambition.

There is a well-known saying of Scobeleff that a position carried by attack can be held against a counter-attack, even if 75 per cent. of the original attacking force have perished. He said that soon after the third Plevna battle, when his troops held the two redoubts in the south of Plevna, although they lost 40 per cent. of their forces, 75 per cent. might have perished, and yet the position could have been held. Military history proves that such positions are generally abandoned when 25 per cent. have perished. That is so, because amongst the slain and incapacitated are often all the officers. There is a well-known instance which came to my own knowledge during the course of the second Plevna battle. A Russian regiment—Pensa—lost all its officers; and although the greater number of men, 80 per cent., were still remaining alive and capable for the rest of the day, that regiment was nothing more or less than a herd of sheep, absolutely unable to do the simplest thing. I refer you to Kuropatkin's historical work for particulars on that subject.

How to provide for the emergency due to the absence of officers caused by death or wounds during a battle, is the business of those who

have the organisation of an Army in their charge. I certainly cannot even offer any suggestions, because the organisation of the British Army has not formed part of my studies up to the present moment.

Major C. B. MAYNE, R.E. :—Colonel Hale, I rise to open the discussion at your request, and I do so all the more gladly because I would like, as one officer of the Service anyhow, to thank you specially as being the leader of those who of late years have given an immense impetus in our own Army to the study of what may be called the vital subject of our military art—the Psychology of War. I think it is greatly owing to your work, Sir, that the, I will not say revival, but absolute beginning, of this study that has arisen in our Service, has come about. I think we must all thank Captain Herbert for what seems to me to be a most valuable lecture to guide us in many of our future studies. I certainly have learned several lessons from this lecture. There is one point I should like to comment on at the outset, and that is, that on one or two occasions, although I do not think Captain Herbert agrees with the statements he has quoted from others on the matter, men are referred to as animals. The mere fact that in Military Art we have to consider the question of Psychology, at once shows us that we are something more than mere animals, and it is this immense psychological factor that enables us to deliberately bend our will-power to face death when occasion demands it. At the beginning of his paper the lecturer says that the average man can only overcome this fear of death under exceptional conditions, and chiefly by the will-power of other men—that is, of the leaders. That is true if we take the word “leader” in the sense of “natural leader,” because it is almost impossible under the conditions in which Armies are raised and organised, to expect every officer to be a natural leader in the sense used in the lecture. That is one point that struck me which might be misleading. To overcome the innate fear of death in every man, I would rather lay stress on “discipline,” and the drill by which discipline is instilled into the men. In Part II. of his paper, the lecturer speaks of increased vanity being favourable to success. Of course, we are all speaking from our own experience, but I do not know that that would apply to our own troops. It seems to me it is rather hard to find a condition of things where single combats, before a crowd of spectators, could take place. In the old days, and even in the Mutiny, single combats between opposing champions sometimes took place in the presence of the opposing troops; but that condition of things can hardly take place now, and my own impression is that most of the gallant deeds we hear of and read of have taken place under the impulses of the moment, and not from such a deliberate factor as men being influenced by the idea that they were being watched by a large gallery of onlookers. Then the lecturer speaks of the “stress of time,” and I think that is extremely important. The statements he has made about the stress of time that occurs, especially in moments of great mental and moral strain, never struck me so forcibly before. What the lecturer says about the peculiar glamour of warfare has often occurred in our own campaigns. I have in my mind a certain campaign of ours, one of those savage wars in a very wooded country, where a Highland battalion was on the line of march, and fell into an ambush. I was told by one of the officers of the regiment that there was a hesitation, which might have become a panic, when the pipers broke out with the regimental march. The effect was electrical. The men dashed forward with cheers into the wood, and in a very short time carried everything before them. I think General Skobelev, too, laid immense stress on this factor of music. With regard to the love of fame, and respect for the opinion of posterity, I do not think that these factors seriously enter into our insular national character, at least as regards the bulk of men. To Englishmen the word “duty” appeals with far greater force than “glory” or “fame.” These latter may influence some few men and some foreign nations, but I do not think that they have a very large place in our national characteristics. What the lecturer

says about the examples of former leaders and past victories I am certain has a very great influence on our men and troops. One knows that our own soldiers have an immense pride in considering themselves superior to the men of foreign nations. I believe that in the records of our past history there are hardly any, or very few, engagements in which we have been actually defeated by foreign troops, when there has been a fair and square fight by English troops opposed to foreign troops alone. Our men know that. I had a very amusing instance, last year, of the contempt, I may say—I am using the word guardedly—that our own men have for foreigners. One of my non-commissioned officers had leave to travel on the Continent. When he was at Strasburg he saw the German pontooneers throwing a bridge over the Rhine. He was telling me about it, and he said, "I assure you, Sir, that if you had given me a squad of our recruits off the parade ground, I would have thrown that bridge over the river in half the time, and made a better job of it." The lecturer goes on to speak of the knowledge that one is fighting for the existence of home and family, as being very favourable to success. That is a very important statement, and please God we shall never be called upon to utilise this factor in fighting for our own homes on English soil. The remarks with regard to the love of life, and the fear of mutilation and death, are most important. I quite agree with Captain Herbert that the fear of mutilation is a far greater factor than the fear of death, and it can only be overcome by the training of the men to a spirit of self-sacrifice, in order to overcome the inherent feeling of self-preservation. I doubt whether what the lecturer has said about the fact of religious denominations branding sudden death as a deplorable catastrophe, has much application to the conditions of English life. I am dealing with it, of course, on a large scale, taking it generally throughout the country. I am also doubtful as to the desire of self-preservation for the sake of family ties being really a factor. Of course, I am applying this in a concrete case, to our own nationality, although it may apply in some countries. I have known so many cases where really I could see no difference between men who were married, and men who were not, in deeds of bravery. I know one or two cases of married men who showed exceptional gallantry in the field, and exposed their lives in what others would have considered a most reckless way; certainly it was a question of duty with them, and natural physical courage. Part III. of the lecture is also important, and there are one or two factors in it which had not occurred to me before. One is with regard to the depressing condition of bad weather; but I think surely it must affect the attackers as well as the defenders, unless the defenders were really in the most straitened circumstances, and had undergone great starvation and privations, to a much greater extent than their opponents. Those who have read Captain Herbert's "Defence of Plevna" will understand that. Of course, a few additional touches, like the last straw that broke down the camel's back, would naturally act on the defenders, who have been subjected for a longer period to trying and demoralising conditions than the attackers, living under more favourable circumstances. The whole of Part IV. is general and abstract, and I understand it as applying to the whole of life, and not necessarily to the soldier only. There the words "the healthy animal" come in again. I think we may all agree that that paragraph is an extremely important one. Taking it as applying generally to the whole of our life, as citizens primarily, the definition of "will-power" and the definition of "natural leaders" are really extremely good. The lecturer says that every unit of troops has a small proportion of men who are by natural selection the guiding spirits of the bulk, for good or for evil. I am certain that all of us who have commanded companies have felt that most strongly. The digression which Captain Herbert made, I think, explains a great deal of General Steinmetz's action in 1870. I had not heard it before. If these were his views, I think they do throw a good deal of light on some phases of his career in the war of 1870. Coming now to Part V., which is a concrete application to our military life of the preceding part, the first paragraph on the

training of a soldier is, I think, extremely important; and there is one aspect which I really would like to press, and that is, the ordinary view of discipline, as mere obedience to orders does not in any way convey its highest sense, namely, self-sacrifice; and until we press on the Service the fact that discipline really means self-sacrifice, I do not think we shall get a true view of what discipline really means. If we only look upon it as obedience, it is an extremely limited view; but if we look upon it as self-sacrifice, it will cover almost every phase of action in which discipline plays such an important rôle. Then coming to the subject of the influence of will-power, we see that the lecturer says that for certain men others must "will," and that we must let the influence of the guiding spirits be fostered and recognised, even if only tacitly and non-officially. Of course, there comes in this the question of selection of men for the positions of non-commissioned officers and officers. It is an extremely hard thing to do, because if one absolutely went by that rule it would ignore the idea of seniority altogether. It is one of those ideals that it is impossible to reach. With Napoleon, who had unlimited authority, one of the factors of his success lay in his immense power of being able to select men as leaders who showed the characteristics of natural leadership; and under his *régime* and with his absolute power he could do as he liked and promote such men, with the best results to himself. The lecturer goes on to say that officers have the clear duty before them to subdue the will of their men to their own. Well, we know how officers are obtained for the Services—by examinations; and mere examinations are not the best proof that officers can exert this natural leadership. However, it is important to try and find out those who can exercise it and use it on special occasions. We should never be carried away with the idea that every officer has this natural power to subdue the will of the men to his own. If every officer had this power, then everything would go on rightly; but we should remember the impossibility of getting this natural leadership out of every officer. It is one of those things which explains the paradoxes on the battle-field which Colonel Lonsdale Hale has so justly brought to our notice. The whole of Part VI. of the lecture, although theoretically important, I do not see how it is practicable to carry it out. It is true enough, all that is said there, but we must remember that degeneration will often occur through the exhaustion that happens in a campaign. Men who have been marched rapidly for several days over bad roads with indifferent food, and sickness, fever, sleeping out in the open air, etc., do degenerate for the time being. Take the question of outpost duty: in many campaigns there are instances of officers and men on outpost duty having formed false impressions from what they have heard and seen simply through their mental and physical powers having degenerated through exhaustion, and on that account they were unable to attribute the right cause to the effects they perceived. The whole of that portion of the lecture seems to me right in the theory, but extremely hard, even if it is possible, to carry out in practice. Then the lecturer says in conclusion that the battle-field is the place, and the immediate superiors are the persons to bring out the latent powers of the men as regards resistance and endurance. There again, I think, a general rule is made for a body of officers which, if relied on in every case, might not be fulfilled fully. It is the natural leaders who will come to the front on a battle-field, and it is they who will bring out the latent powers of the men. I had the pleasure of reading a magazine article on the battle of Wörth, where you, Sir, pointed out that some of the French regiments engaged actually lost 97 per cent. of their numbers which, as you pointed out, was practically absolute annihilation. It shows what can be done by some troops when they have their will-power to face death carried to its highest extent. The same battle of Wörth affords several illustrations of the importance of the psychological factors as affecting the battle energy of many of the German troops.

T. MILLER MAGUIRE, Esq., LL.D. :—I do not think, after the very exhaustive and able manner in which Major Mayne has gone through the lecture, I shall keep you very long. I am very sorry indeed now that more officers did not attend, and more of the general public also, because I am very sure that a more thoughtful paper has not often been read in this or any other institution. In fact, it is a thorough paper, whether we agree with every phase of it or not. I am inclined to follow Major Mayne in some of his criticisms, premising one thing, that there is not one sentence which it would not do us all good, whether we are soldiers or civilians, to weigh and consider. The lecture is a very detailed exemplification of Napoleon's celebrated maxim, that "The moral is to the physical as three to one." In every walk of life the man of high motive and resolute purpose prevails over his weaker neighbour—not weaker physically, but weaker morally; so the race which has a good *moral* must inevitably prevail in business and on the battle-field. *Moral* and morality are very different things. Morality is of no importance for our immediate discussion, but *moral* is all in all. The doctrine is laid down very clearly by the greatest of all Englishmen—Lord Bacon—in his essay on "True Greatness of Kingdoms and Estates." The lecturer referred to Lord Bacon, but did not quote him in regard to his own special points with reference to the battle-fields, in which perhaps he is more experienced than most of us here; nor did he quote him in regard to death, the base fear of which he so ably handled. I think Lord Bacon's remarks with regard to the superiority of the moral over the physical and the necessity for a military breed in the State deserved the attention of the lecturer. He says (I merely make a *précis* from memory) that for true greatness of estates, stored arsenals and armouries, goodly breeds of horses, chariots of war, and elephants are as nothing compared with the military spirit dependent on the education discipline, religion, and social condition of a State. Another essay which bears on our subject is the second of Lord Bacon's essays, "Death." There was a time when every student for the Army was asked to read through and fully appreciate several leading books of English literature, and among them were essays like Lord Bacon's, which would give some fund for thought. All that is abolished now, and the ingenious youth of Great Britain, instead of learning from Lord Bacon how to face death, or before facing death, which we like to delay, how to get on in this world profitably to themselves, are referred to the millionaires of Daudet, and the degenerates of Zola. Lord Bacon agrees with the lecturer in regard to death. He says the pomp of death, the ceremonies, the preparations, the blacks, and such-like things, terrify more than death itself, and he gives a number of quotations from very distinguished generals, showing how many of them, though not praiseworthy in their lives, when it came to the final issue faced death resolutely, and that many of them left in their last words some important legacy of thought to future generations. I am afraid the reason why we have not such a good audience this afternoon is that the very word "psychology" has an unpleasant influence on the average English mind. It is not exactly the phrase to attract gentlemen from clubs, or ladies from their boudoirs. If there is anything a Briton hates more than another, except he is a Scotchman—and in Scotland metaphysics thrive—if there is anything a Briton hates more than another, it is metaphysics. They were afraid that the "psychology" of the battle-field would mean an expansion of the more recondite periods of the lecture which recall Coleridge, Locke, and Kant, and thus they lost the most interesting and instructive experiences and suggestions of our friend Captain Herbert. It is a curious thing that although history might have taught the contrary in our country, no one seemed to recognise what was the *differentia* of a general, until the time of Addison. It was supposed a general was a person who distinguished himself in the art of killing with his own hand, in a given period of time, more of his opponents than any other man; prompt and prodigious slaughter made a general. That idea prevailed as late as the time of Marl-

borough. There was one poem written about Marlborough to the effect that Marlborough himself annihilated the allies by the thousand :—

“Think of ten thousand gentlemen at least,
And each man mounted on a capering beast,
Into the Danube he them pushed by shoals.”

Neither the general nor the Ministry liked this description ; Addison was asked to write another ; and then in “The Campaign” for the first time he put into poetry what really makes a general :—

“Twice then great Marlborough’s mighty soul was proved
That in the shock of charging hosts unmoved
Amidst confusion, horror and despair,
Examined all the doubtful scenes of war,
In peaceful thought the field of death surveyed,
To fainting squadrons sent his timely aid,
Inspired repulsed battalions to engage,
And taught the doubtful battle how to rage.”

There was the triumph of courage, and discipline, and will, to which the lecturer referred, over matter, nerves, and fears as to future life. Here is the power of containing oneself and managing oneself in a crisis which makes a hero, whether the man be a statesman, a general, an ordinary workman, a fireman, a shop walker, or a sailor. With regard to physical degeneracy and such-like topics, I think there must be something in it, because it is perfectly clear that European, not British, soldiers in recent wars—for example, in the Franco-German war—yielded sooner to pressure than soldiers yielded in the Seven Years’ War, the Peninsular and other Napoleonic wars. If you go into the statistics of the pressure which caused positions to be abandoned in 1870-71, and compare them with the amount of pressure that soldiers stood before abandoning a position in 1808 to 1814, you will find—I am speaking subject to your correction, Sir—that positions were abandoned in 1870-71, even by the Germans, before they had gone through half the suffering that was experienced in 1808 and 1814. I leave that to the Chairman to speak upon, as he is decidedly a most able and competent critic *re* these battles. With regard to the strength of will of von Steinmetz, not even the fact that he was a frequent visitor at the house of the father of the distinguished lecturer will lead me to congratulate his country on the peculiar way in which he developed his strength of will on the German right, August 18th, 1870. This strength of will with regard to the use of the 7th and 8th Corps, I think, is to be reprobated by his country. Sometimes we may have a little too much strength of will, and the virtue of obedience is almost equal to that of pertinacity. Our learned lecturer need not go to soldiers to find how many of the humbler classes of the community cannot distinguish between cause and effect, and are incapable of carrying out any order efficiently, however clear. As he has now a little leisure from “the steel couch of war,” I would advise him to reconnoitre the servant class of London, and he will find more samples among them of the degeneracy of the kind to which he referred than among any other civilised class that ever existed in any age of the world. I do not agree with Major Mayne that certain portions of our British people think little of fame. I really believe that we live in the future more than Major Mayne thinks. If I had time I would support my views by quotations from not only classical writers, but the whole range of British poesy and eloquence. Milton, with regard to fame, sings of “the last infirmity of noble minds” ; and many other quotations from the leading English writers would prove that the best blood of England, not to speak of the other branches of the United Kingdom, flows more rapidly through our system under the influence of hope for fame than the gallant major suggests, let us say in us fully as much as in the frames—let us hope inferior—of Germans, Austrians, and French. I base my views on literature and

history, and, of course, I have no other means of judging just now. Again, I congratulate the Institution and Captain Herbert on this lecture. I do not know how more suggestive matter could be found in two pages than is found in the two pages supplied to us as an abstract of the lecture this afternoon.

Dr. T. B. HYSLOP:—I dare say the last speaker will be very much astonished to hear that it was simply the word "psychology" that attracted me to this meeting to-day. I am not at all a warlike person; the only battle I have ever seen was in this room on one occasion when the opposing battalions did not meet, although they were supposed to meet at Guildford; so I cannot profess to know anything whatever about warfare. My excuse for speaking is, that I have been a teacher of psychology in London for some years, and there are certainly many points in the paper that have very much interested me. So far as I myself am concerned, I belong to the category of "absolute cowards," and I have often experienced various feelings which I should like to have some interpretation of. I should very much like to have heard during this lecture some interpretation of, or some expression of opinion upon the matter of the emotions on the battle-field. It has been a matter of controversy between Professor Lange, of Copenhagen, and Professor James, of New York, for some considerable time as to what really constitutes an emotion. Professor James argues that we are creatures who act reflexly, that we are more or less organisms which simply re-act to circumstances, and that the emotions take the tone from the re-action. We all know perfectly well—those of my own sex present—that if we miss a ball at billiards we are apt to say a certain word or give vent to some expression which is quite involuntary or reflex, and then we appreciate the nature of the act afterwards. And just the same thing applies to the ladies. If they happen to run a skewer, or pin (or whatever it is that goes through their hat) into their finger, there is a corresponding reflex, and so one gets exaggeration of this reflex. So that Professor James has formulated a theory that with the sight of something terrifying one gets a complex of organic sensations; in fact, that we run away, and that we become afraid because we run away. I do not know whether you will agree with this, or how far the learned lecturer can give one an explanation of this theory. There is another point, too, in this lecture which struck me very much. The lecturer mentioned the terrible disaster and the terrible effects of the squint-eyed Attila. Now, the psychology of that squint I should like to know something about. It corresponds very much indeed with the experience of a warlike man I met out in Egypt last year. I said to him, "Now tell me—you have told me many wonderful things, many deeds of daring which have curdled my blood—now tell me the most awful thing you ever saw." He said, "The most frightful carnage I ever saw in my life was in a bull-ring close to Gibraltar, and it was all on account of a Castilian squint-eyed bull; and nobody knew the direction that bull was going; the consequence was, it did more damage; in fact, the matadors invariably found themselves on the horns of a dilemma." I have thought a good deal since about that squint-eyed bull, and I think the feeling is this, if I may be allowed to make one remark upon a warlike matter, which of course I do not understand. I think that tendency to depression, or lowering of vitality, is very apt to be brought about simply through not knowing what the bull is going to do. I think if soldiers had a little more information—if the Intelligence Department were a little bit more communicative—that possibly might have a favourable effect upon the men. That is a point, however, I cannot pretend, of course, to lay down the law upon. But there is one point upon which I do feel qualified to speak, and perhaps more so than the lecturer, and that is the question of degeneration. Unfortunately, or fortunately, I have been a medical officer in Bedlam for ten years, and one comes across there a considerable number of degenerates, and we are in the habit of not only attending to them within the doors, but also in the habit of looking outside occasionally, and I am in a position to state that some of

the lecturer's remarks about degenerates invariably not being able to put two and two together is quite wrong. The whole question of degeneracy, as at present discussed, one objects to very much indeed. I think the lecturer quoted Max Nordau as being a great and accepted authority. Well, at the present moment I do not know any psychologist who does accept his teachings as the whole truth. If you analyse Max Nordau's work you can convict him, on his own writings and his criticisms of others, of suffering from no less than eighteen of these stigmata of degeneration; so that really if one were to believe his writing one would class him as one of the grossest of the degenerates. He simply followed in the school of Lombroso, and at the present time certainly I think their writings are not to be tolerated. We are all very much inclined to judge others according to our own standard, and if we find that other people do not agree with us, or if they have got some opinion that does not agree with ours, we are rather apt to think that they are wrong entirely. There was another small point that very much interested me, the question of sudden terrors that sometimes occur when an Army is on the march. I have heard it said, of course I have not witnessed such a thing, but I remember an old general telling me on the way to India, that on one occasion he had seen a regiment on the march, very tired certainly, but marching in perfect silence, when suddenly, without any obvious cause, the men got into a tremendous state of panic. But at the voice of command from the officer they all went on and resumed their cheerful ways. I would like to know if it is the experience of anybody present whether these sudden terrors do commonly occur without any cause whatever.

Captain HERBERT, in reply, said:—I have nothing to reply to Major Mayne, except to thank him for his complimentary remarks. He mentioned the subject of music. I think the most striking instance of the effect of music in modern times was at Slivnitza in 1885. If you have an account of Slivnitza I recommend you to read it for the purpose of seeing how music was employed in this particular battle by the Bulgarians—employed as it never had been employed before, and never is likely to be employed again on any field of battle. Dr. Maguire spoke of the study of history, and I think if anybody has the power to alter the existing state of things it is Dr. Maguire; and if he would go to work to cause a more intelligent appreciation of national history, he would do the country a good turn. As regards Mr. Hyslop, I certainly accept entirely his conclusions as to degeneration. I have studied this subject merely as a layman. I read Nordau in the first instance, and he referred me to certain works of Lombroso and Binet, and these works I have also read. I do not know if Binet is an authority.

Mr. HYSLOP:—Yes.

Captain HERBERT:—Nordau, it strikes me, has repeated merely that which Binet and Lombroso and everybody before him discovered or laid down, and it was certainly quite new to me that Nordau was not considered an authority among medical men.

Mr. HYSLOP:—Amongst psychologists.

Captain HERBERT:—I shall know for the future that if I speak about degeneracy at all, I must leave Nordau out and refer only to Lombroso and Binet. Certainly what you said about degeneration does not bear any contradiction on my part, who am only an amateur; but I do believe, and I remember it from all writings that I have read, that the inability to put two and two together, as you call it, is one of the leading stigmata of degeneration.

Mr. HYSLOP:—That is one of them. I thought you laid more stress on that than anything else.

Captain HERBERT:—I thought it was the most important. It does not matter very much. You spoke of sudden terror. There is a well-known case amongst the Germans at Gravelotte; but even a more striking case is the panic amongst the Russian troops in Sistova the day after the second battle of Plevna. This

case is very extraordinary. I cannot possibly go into details, but I certainly recommend you, if you are interested in the subject, to read the German work by Trotha, which has lately been translated into English. The Chairman has asked me to say a word as to the absence or scarcity of food and its influence upon the mind. I think this influence has been over-rated. The powers of endurance of any human being include also in healthy developed men the power of enduring for a certain time starvation or ill-feeding; and I have a very vivid recollection of being far more impressed by other things, for instance, the wet ground, and my continually wet feet caused by defective boots, than by the scarcity of food. The weather altogether was to me of greater concern than the scarcity of food; and the temper of my brother-officers and of my subordinates was to me a much greater anxiety than the whole question of food put together. Of course we must "eat to live," and after a certain abstinence from food life will cease; but the powers of the human being of resistance are very great also in this respect; and I think the question of scarcity of food is not so important on the battle-field as, perhaps, sometimes it is described. We hear people speaking of the terrible sufferings caused by the absence of food. There are sufferings to my knowledge which are infinitely greater, one of these being exposure, and another—for me, at the time, most important—the temper of my men.

The CHAIRMAN (Colonel Lonsdale Hale):—Gentlemen, the lecturer made one remark with regard to the love of life and the fear of mutilation and death being unfavourable to success. I submit that these emotions militate favourably or unfavourably—at all events in defence—according to the treatment likely to be met with in the case of surrender. To surrender to a German means captivity only; surrender to a Zulu or Afghan means certain death and mutilation. The Austrians laid down their arms to the Germans in 1866, as did the French often in 1870-71; but they would not have done it if they had believed they would have to undergo the processes which the Zulus adopted. There is one point from which I must venture to dissent. The lecturer tells us—and he repeated it more than once—that it was desirable that the men engaged should have an intelligent comprehension of the cause for which the war is fought. The nominal cause is so seldom the real cause, and the real cause is so frequently hidden in the foggy atmosphere of diplomacy, that the task seems well-nigh impossible. I now only have to convey to Captain Herbert the thanks of the Institution and of the audience for the admirable lecture to which we have just listened.

THE FOURTH ARM.

By Colonel MARK S. BELL, V.C., C.B., R.E., A.D.C. (p.s.c.,
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THERE appears to be no satisfactory exposition setting forth the duties and scope of action of the engineers in the modern battle-field in co-operation with the infantry. My first ideas of what they were capable were imbibed from a long, daily, and most intimate association with a much-loved and respected commanding officer, the late lamented Colonel Robert Home, C.B., R.E., who, at the time that his work on "Modern Tactics" was being published, talked over its contents with me as we, for twelve long hours daily, tramped the jungles of Ashanti; and had he lived he would doubtless have further enlarged on the tactical value of the engineer arm in the field; for, he was a man in a thousand in that, to him, theoretical knowledge was not theory, but a real, practical knowledge, so living and active were his ideas on tactical subjects. Ideas and opinions form and gain strength as one ages and hears and reads and ponders, and I am now more than ever convinced that there is in the future a rôle before the "fourth arm," in the fore-front of the battle, as glorious as that which they enjoy when a siege is being actively pressed or a defence being stubbornly conducted.

The immediate cause of my having to express my views arose on the occasion of assisting Volunteer officers in working out a war-game. I found it easy to tell them that they would find in Part V. of the Infantry Drill-Book an excellent statement of the duties of cavalry, artillery, and infantry in combined tactics; but the question naturally arose as to the employment of the engineers—this fourth arm so capable of giving essential and efficient aid, and of whom so much is possible. We searched this treatise on combined tactics in vain to find their mention, and yet co-operation should be required of them in every stage of the combat. If they are thus ignored in the Drill-Book and no rules or even suggestions laid down for their employment on the battle-field—the goal of all tactical operations—how can a general on service, or when conducting manœuvres or the "game-of-war," their peace prototypes, be supposed to utilise them to the best advantage, if he has not exercised himself in doing so on every occasion and in every act of war? That all arms should act in concert is essential to success, and want of it is due to inexperience, personal ambition, and jealousies between men and the different arms of the Service. Every commander who cannot bring into co-operation all the four tactical arms and work them in unison and mutual support, and as

infantry auxiliaries, and who from want of appreciation of its value loses the support "always useful, never harmful," which the art of the engineer can give, must be considered to be wanting.

To aid, then, my Volunteer friends in their map and skeleton manœuvres, taking Part V. as a guide, I explained to them the manner in which, according to my lights, the omissions as regards the co-operation of the fourth arm might well be filled in.

The essential point in war is to decide quickly on action and to carry it out; the secret of victory lies in superior will and limitless energy, and, in order to come to a proper resolution, knowledge must guide the will. Knowledge is power, and information the sole means by which a mass of troops can be electrified into harmonious and concerted action.

To gain information (Information, S. 108; Reconnaissance, S. 110), engineer officers are required with the advanced cavalry reconnaissance, or in its wake. During this reconnaissance the engineer staff will take special note of all features of the ground, etc., that may be turned to a defensible account; that are capable of giving to the troops positions favourable to periods of rest and resistance; that will aid an advance and facilitate, if necessary, a retreat, etc.; for, as will be seen later on, they may be called upon to bring to account the aid that this knowledge can give to the infantry. They must carefully reconnoitre all passages required for the advance and the retreat. The reports brought back to the general from all engaged in this reconnaissance should materially aid him in settling on what part of the field he will make the assault; on what part he will act on the defensive—offensive, in a holding position; he will, at his discretion, probably utilise his engineer staff to aid in the execution of both operations; the various staffs being intimate with his wishes can further his aims intelligently, working towards one goal. Without the knowledge gained by this preliminary reconnaissance the general cannot (S. 111) distribute his troops in the manner "which lends itself most readily to the development of the plans" he has immediately in view.

The various sections of the battle-field will be more thoroughly reconnoitred by the generals called upon to operate in them during the artillery preparations for the fight, and a gradual advance be then made by them to seize and hold points of advantage, etc.

The reconnaissance from the special point of view of the engineers must be uninterruptedly continued, and they must be enabled by it to foresee and arrange beforehand for rapidly fortifying the important positions to be gained by the infantry, to arrange to pass cavalry and artillery without loss of time over partially-destroyed bridges, and over which infantry may have passed in their forward movement, etc., etc.

The balloon sections will materially aid in these most important reconnaissances.

This thorough reconnaissance of the battle-field is, then, all-important, for every manœuvre must pivot on some point of support, whether a feature of ground, field work, stationary troops, etc.; the point

of support must be abandoned when its transitory use has passed, and it must not prevent the offensive being taken, although it may temporarily serve the defensive. There will be no purely defensive battles in the future; both forces will eventually assume the offensive; and a general, whilst seeking to outflank his enemy, must guard against being outflanked himself by a skilful employment of field works and a good disposition of troops.

A few specialists of the engineers will be required with the advanced cavalry to assist in destroying and reforming communications, and to tap and repair telegraph wires, etc. A detachment may be required with the artillery; they, however, should be exercised to, as far as possible, throw up what cover they require for themselves.

The bridging section of engineers must be well to the front, and the preliminary reconnaissance will enable the general to direct its operations and those of the telegraph battalion, and the latter must at once proceed to connect the various sections of the battle-field with headquarters, and to keep up connections with it.

These special troops should come early into action under cover of the advance, for they must foresee and forestall exigencies, and not be delayed by them. As upon the engineer-in-chief devolves the responsibility of ensuring that they act in concert with tactical requirements, it is apparent that he must be intimately acquainted with the plans of the general.

Although officers commanding Royal Engineers with the main units must constantly join their headquarter staffs to ascertain the views of the generals commanding them, yet they should frequently proceed to the front to ascertain what engineering works are required to aid both the offensive and defensive actions, and to ensure that the engineer arm is co-operating effectively.

During the advance, S. 124, 4, lays down that the *third line* should take up a good defensive position where, in the event of reverse, the enemy can be effectively checked, and behind the flanks of which the first and second lines can be safe, at least for a time, from anything like an effective pursuit. It also directs that when about 500 yards from the position, more or less according to the nature of the ground, the firing line should endeavour to establish itself in good defensive positions all along the front, whence, as from a first parallel in a siege, both false and real attacks can be made on the position in front.

Whilst his infantry is advancing then, the general has to consider how to give the best effect to the above instructions. We may assume that the officer commanding, from his commanding position (S. 127, 1), will have formed, with the aids of the reconnaissance reports, some idea of where these positions are to be found. They have to be taken up under stress of action, and the question naturally arises how the general can best bring the knowledge which his *coup d'œil* and special information have enabled him to form to influence the action of the firing and third lines. So long as a general can keep the eyes of his soldiery upon him, he holds their attention and they silently obey all orders; yet another moment and

they are beyond his control and dominated by the tempest of the fight ; they must then do the best they can for themselves, and this at a time when he requires them most under his command. By decentralisation alone can he regain command and keep his troops mobile and elastic. It is now that a staff intimate with his plans can step in and control in a measure for him ; this they must now do, and happy is the general who can so influence those upon whom he must rely as to cause them to work together in concert, like hounds on a scent, to gain the goal he has set them.

The company training of the infantry must suffice to enable them to entrench themselves in the firing line, and this training must have been most careful and thorough to ensure of their making good use of the fleeting minutes ; hasty cover is all that can, as a rule, be provided ; shelter-trenches, or pits, or walls of clods ; walls and hedges when they exist, etc. ; in a few cases some sappers might have to be pushed forward to aid the infantry in preparing for defence some specially important *points d'appui*, or to destroy obstacles that hinder the advance.

The position in the firing line must be taken up to give the artillery time and opportunity to support the assault and to enable the general to arrange his second line in depth in front of the position to be assaulted, and preparatory to striking the overwhelming blow. Work at this range is only possible from the moral effect its occupation has on the defenders, and which by unsteady nerves leads to much unaimed fire.

During the advance *points d'appui* should be fortified to prevent a check degenerating into a rout. The divisional engineers can thus be immediately utilised, and they should closely follow the battalions of the first line (S. 124) ; the corps engineers are directed by the corps commanders as to the special points to be fortified, villages to be occupied, passages to be improved, bridges to be destroyed, etc., etc.

The sappers can aid materially in preparing for defence the positions to be taken up by the *third line* by assisting the infantry in occupation of the *points d'appui* to complete their defence and to improve the defensive position generally by field works, under which heading are included abattis, loopholing walls, hedges prepared for defence, etc.

The engineers with the offensive sections use their rifles when required to do so, and until they set them aside for the crowbar, pick, spade, or other tool. This alternate use of the rifle and tool requires to be practised not only by the engineers but by the infantry, parties of whom must be told off to assist in destroying obstacles, and, as shown above, field entrenchments is one of their important duties. We have yet to teach the infantry soldier that in the modern battle-field the entrenching tool is second only to the rifle in importance, and that he must turn from the one to the other as the exigencies of the fight direct. The technical duties of the fourth arm should, as indicated, absorb all their energies, and it is but rarely and on an emergency that they should be called upon to act as infantry pure and simple. To so employ them is not to utilise them to the best advantage, and having regard to their limited numbers and

the difficulty of filling up vacancies they should only be called upon to act as infantry when appreciable advantages are to be gained from it.

To rapidly select a line of defence, improve and hold it for such time only as the tactical situation requires it to be held, and under a more or less heavy fire, requires an experience that our troops do not yet possess, because it has not been gained by training, by practice during manœuvres—either field or skeleton—or by tactical exercises on models or by map manœuvres. Our Army is composed of the longest service troops in the world, and their long training and discipline should give them a temper, character, tenacity of purpose, and manœuvring power superior to what it may be possible to expect of shorter service troops. It is not, therefore, admitted that our men would incline to keep to their hasty entrenchments; they would gain in *moral* on taking the offensive from the temporary cover they afford, and by so doing would introduce the unforeseen into the battle and disconcert the enemy's plans. It shows narrow-mindedness to reject field defences, for all forms of battle must be used as required, and all subordinated to keeping the initiative, and to subjecting the enemy's movements to your own.

We must always remember that the attack, whilst preparing certain points for defensive action, will only occupy them on compulsion; the initiative will be kept up until the troops are forced to resort to the defensive; they here reform to regain strength for a further effort.

S. 127, 5, lays down that the attacking force must ever be ready to assume the defensive, and that commanders must therefore, during the advance, be on the look-out for positions suitable for defence; and paragraph 6, that should a retirement become necessary it must be conducted by the successive retirement of alternate portions of the force, those in rear occupying the strongest positions offered by the ground, entrenching themselves if time permits.

Now, at manœuvres, strange to say, time never does permit; and it is to this that the want of reality in our method of practising an attack is chiefly due; want to appreciate it leads to a vicious training, and the acquirement by the troops of vicious practices: a training to please the eye and humour the spectator, and not calculated to lead to a true war efficiency. We forget that habit becomes second nature.

The modern battle-field is not what we love to depict it—a succession of volleys and rapid advances succeeded by independent firing, the charge and the hurrah! Rather is it a slow and weary wearing away of opposing forces, both moral and physical; an advance that progresses only *pari passu* as the courage and fortitude of the enemy are overcome and his strength exhausted; an advance only to be made step by step and by superior courage, endurance, and leading. It is to this peculiar character of the modern battle that the increasingly important rôle of the fourth arm is due. It has now time to make its action felt; formerly, in many cases, it had not.

Generals must now habituate themselves to direct even battles by maps, for from maps, amplified by reconnaissances, he can obtain information sufficient to determine upon a plan of action, and to enable him to

seize the initiative. The desire to be too fully informed leads to inaction, and to one's plans becoming subjective to those of the enemy. Napoleon's method, "*on s'engage d'abord et on voit*," should be followed. Clearly-defined opinions on action to be taken in battle are most essential, for the chief can only indicate the aim, and leave it to subordinates to gain it. With the size of Armies decentralisation increases, and all must, more or less, mechanically work to one end, and this must be practised in peace if to be attained in war; centralisation in peace-time is bad, but in war-time it would be disastrous. Method, then, is all-important; it prevents indecision, and gives a solution that can be adopted, unless, upon reflection, a better one offers itself. A good method leads officers to judge similarly of tactical problems as they occur, and accustoms them to certain formations. Method alone can obtain concerted action, and none need fear that it will kill genius, for genius is a birth, and will dominate all. Everything in battle should not be left to the spur of the moment, and the best methods are learnt only by experience (*manceuvres*) and by following formal directions. He who bungles in peace *manceuvres* will not find a solution for action in war when he has failed to find it under circumstances altogether more favourable for doing so.

A position being gained by an assaulting party should be entrenched. The engineers, with their tools, must be close at hand to aid in strengthening the position won; here again their chief duty will be to strengthen the *points d'appui*. Thus entrenched, the major portion of the other arms are placed in, a position to pursue vigorously, meet counter-attacks, and turn a retirement into a rout—in a word, to act with the greatest boldness, and with a feeling of security as to their rear.

We have hitherto considered action in the offensive section of the field only; let us now conceive a battle-field extending over, say, ten miles, and a general commanding a corps of three divisions ordered to magnify his strength so as to deceive the enemy and to take up a "holding position" extending over a frontage of from two to three miles or more, so that the commander-in-chief may be relieved from all anxiety of his line of attack being here broken into, whilst in another part of the field he pushes the attack vigorously and assaults with overwhelming numbers the positions out of which he has resolved to turn the enemy at all costs, and by so doing to force him to evacuate the whole. To effect this it will possibly be necessary for two divisions to advance with intrepidity to the nearest point to the enemy that they can without undue losses attain, and, whilst still pressing the enemy, to take up a defensible position of some depth and to strengthen it.

This operation requires that all engaged in it be highly trained in its execution, if it is to be carried out expeditiously and effectively so as to hold the enemy as it were in a vice and prevent him breaking through the line of attack, and from withdrawing troops to strengthen other parts of the field where superior numbers are advancing to overwhelm him. To bring it to a successful issue all available engineer troops should be brought up to assist the infantry.

Difficult as this operation may be, every commander should have

practised to give effect to it. Upon the infantry falls the duty of doing the main part of the digging, loopholing, abattis, etc., and the engineers can possibly only take the *points d'appui* and ensure security to the flanks, and that here is some unity in the works carried out over the extended area the general has determined to hold on the defensive-offensive. The staff must aid the general in this operation as in all others; such an area must be held in depth, and commanders can possibly best obtain the results they aim at by utilising the staff constituted for this purpose, *i.e.*, the engineer officers under them. There can be no question of useless work being done, for works will be dictated by the tactical requirements of the fight; generals cannot see to details, and the work will chiefly fall on the majors of half battalions, company officers, and the engineer staff. The general is the leader of the orchestra, who plays no instrument, but regulates the harmony of the whole and on whom all depends. The aim of the fourth arm, then, is to instil unity of effort; by reason of the conditions under which the modern battle is fought, it has become an essential to security; each commander of an infantry unit will defend the ground his command holds and forced upon him by the tactical necessities of the case; the engineers will be utilised at the special points, on which the general defence may lean for support and on which it may pivot, and in giving to the defensive line all its value.

Let me not be misunderstood: the engineers lay out no lines of defence, that line and area being determined by the exigencies of the battle; it is their duty to act as the staff officers of their immediate generals, and by their special knowledge of details to give them what support they direct.

It is often most essential that engineer officers with commands should take the initiative in carrying out their special field duties, such as reconnaissances of positions, passages of rivers and swamps, etc., preparations for defence, construction of bridges, and re-establishment of communications destroyed or obstructed by the enemy. In all such cases they must keep commanding officers informed of what they are doing and the object of their work. The general commanding, his chief of the staff, and what may be called his tactical staff, will be too absorbed in the direction of the fight to indicate to the engineer staff and regimental officers how their arm can best aid in its development and ensure the success of the tactics adopted under the varying conditions of the battle; and the engineer officer who does not take the initiative without promptings, who fears to act without orders at an important tactical time, or who, whilst awaiting them, remains a passive spectator whilst the tactical action is developing, instead of actively aiding in its development—shows himself to be unfit for his position, and he certainly would not be the "right man in the right place." The spirit of initiative must never be wanting in an engineer officer.

But the initiative of subordinates must have a limit. The general must never lose control, and must intervene when necessary to remedy errors, and to indicate conditions required for success and towards which united effort is indispensable; the chief whilst regulating the whole

leaves the particular action of each unit to itself, and looks to all to act in the sense of the general idea. He holds the reins, and units may disobey the letter of his orders whilst obeying their spirit, if local circumstances require them to do so. Excess of initiative shows want of confidence in the chief, and for success there must be confidence that all ranks, in their respective spheres, will fulfil their special duties; the initiative consequently must of necessity be restricted, and is only allowable when duly subordinated to the chief's aim.

On an Army taking the field, an "engineer-in-chief" is appointed to the staff of the officer commanding in charge of the effective distribution of the engineer arms, to arrange for the allotment of engineer stores provided for the Army, to supervise and to facilitate the work of the different details of engineer services, and to deal with engineer questions generally. To the staff of the general officer commanding an army corps is appointed a "chief engineer," and to those of independent units and lines of communications "staff engineers," who are charged with the administration of the engineer arm with their units and with the general supervision and control of the engineer services carried out by them.

C.R.E.'s with divisions and on lines of communications command the engineers in their command, excepting the telegraph, railway, and balloon units; these latter are under directors; C.R.E.'s, however, will be responsible that all the details of engineers work together to the best advantage.

A general cannot be supposed to remember all the minutiae of numbers, of time, and tools required for defensive works, and may be naturally expected to trust to his engineers, whose business it should be to indicate the golden mean, what is possible, something or nothing, in the time that the general calculates that his troops will be occupying special positions; and to cause his orders to be conveyed to the units concerned by his engineer staff, who can then with their special arm assist materially in executing what it may be advisable to attempt to do, and avoid doing what had better be left alone, and give to each arm what assistance their technical training may enable them to give.

A commander may lose the opportunity of his life should he neglect to fully utilise works that it may be possible to execute in the time available to aid movements both to the front and rear, the offensive as well as the defensive. Such an application of field works to tactics, notwithstanding that it is indicated in the Drill-Book, as we have shown by the references we have made, is still a theoretical one only, and we should determine to practise it during manœuvres and on every possible occasion. Let us, to this end, accustom all units, with suitable proportions of all arms, to take the field with their tool-carts, and to test the best way of utilising field entrenchments in the firing line, the third line, and when occupying an extensive holding position extending over two or three miles of a varied country, at the same time that the offensive is being taken on one or both flanks; and organise a staff to give unity of action and effort to it.

As a result of such an exercise, the question will possibly arise as to

whether our infantry company training sufficiently instructs them in what will be required of them in the modern battle-field. Their instruction, carried out on "field-work grounds," *i.e.*, any vacant space that may be available, gives to none any idea of the application of such works to the tactical requirements of ground being altogether unconnected with tactical exercises, etc.; trenches are of necessity thrown up in hollows and other impossible positions. On tactical exercise grounds and on manœuvres the lines of the entrenchment or redoubts might be represented by the lines of implements, the men at their digging posts, and the troops thus practically taught to make the best tactical use they can of what ground they come across to gain the ascendancy.

"Time for the construction of works in the field does not so often fail as the presence of tools and of the engineers at the right time on the right place." (*May*.)

The retirement has already been referred to, and S. 121 (1 and 2) points out that success in a retreat depends on the completeness of the arrangements which have been made beforehand—presumably by someone having the leisure and means to make them. Every detail should have been considered, so that when the time arises little remains but to issue the necessary orders. If a retreat is not to degenerate into a flight, the reserve or freshest available troops must take up a position to cover it; if such a position can be found towards a flank, it will relieve the retiring troops by drawing the enemy off the real line of retreat. Every obstacle should as the troops retreat be thrown in the way of the enemy's advance, by destroying bridges, setting fire to villages, etc. In a retirement, then, we find ample scope for the action of the fourth arm, both independently and in close co-operation with the infantry. Why not then practise this operation in peace as laid down to be conducted, and with the infantry and engineers in co-operation?

Why, when such real work is awaiting them in the field and in every stage of the battle, can we find nothing better for our field engineers to do during peace manœuvres than to act as infantry or to see to camp water supply? the latter essentially a peace duty, for in war in civilised countries, to carry out which we train, we should compel the civil authorities to arrange this for us.

The Defence.—The requirements of a defensive position are given in S. 128, and before one can be occupied it has to be reconnoitred and the troops distributed in three lines to hold it (S. 128, 6). No hints are given as to how the engineers should co-operate in furthering the general principles laid down for the occupation of the position, although it may be supposed that their special study of field works on a large scale, and their application to tactics and the ground will be fully utilised. The ideas put forward as to the manner in which their services may be advantageously employed in the more difficult operations already considered will suffice to indicate how they can be best employed on the defensive in intimate co-operation with, and in aid of, the other arms. The pure defensive on a large scale, it must ever be borne in mind, is fatal to

success, and must always be taken up with the idea of the ultimate offensive so soon as all advantages inherent in the defensive form have been gained.

The infantry soldier need be under no apprehension that the engineer wants to do his work; there is more than ample scope on the modern field of battle to fully tax the energies of both arms. The only object of these notes is to point out that the work that has to be done can be best done by the infantry with the most intimate co-operation of the engineers, and that to ask of infantry to do all that is laid down that they shall do on the battle-field without this co-operation is an impossibility. With every nerve strained, say when "long range" fire is reached, with all their energies required to keep their units in hand so as to obtain of them the greatest development and concentration of aimed fire consistent with a steady, but maybe slow, advance, and, indeed, to give effect to all the excellent instructions laid down in S. 125, 1, 2, how can infantry officers find time to look about them for positions favourable to defence, or to cover their retreat; S. 127, 5, 6; S. 124 (4)? or to see how to make the most of the defensive possibilities of the very front they are occupying, of which they know nothing beyond what is immediately in their front or on either hand of them? Such main considerations must be left to the general reserve, S. 127, 3, and a special arm, the fourth arm, following the attacking line up closely, and keeping as much out of the thick of the fire as is consistent with gaining a full knowledge of the defensible ground to the front and flanks of the force of which they form an integral part, ready to take up their part of the task. On manœuvres infantry officers may be able to think more of these things, but when bullets are falling as thick as hail and all depends upon their leadership they have to turn their attention to what most concerns them—the conduct of their men. As this will absorb all their energies the general will do well then, we think, to push forward to co-operate with them in giving effect to the less dashing and all-absorbing but not the least necessary requirements of the attack, a special arm to give the impetus required to carry out his orders relating to the defensive positions that might, in a stubborn resistance, have to be taken up by the firing line, the third line; in the defensive-offensive section of the field, etc. Their intelligent co-operation with the infantry is a means whereby a commander may gain full advantage from feints, stratagem, surprises, etc.—tactical elements so productive of victory. Their advent in the fight should act as a sedative on the over-strained mind of the infantry, and help to instil that nerve into it which is so necessary for cool and determined action.

The plans of an advancing enemy may be altogether disconcerted on their finding themselves unexpectedly confronted by a few well-situated *points d'appui* held on the defensive. "The engineer, in virtue of the character which is peculiar to his branch of the Service, may hold an equilibrium in military operations. He may render the success gained by an impetuous attack secure, by quickly throwing up field works behind the attacking force, and in the same manner stop a retreat by hastily-

constructed entrenchments, the holding of which then concerns the honour of the troops." (*May.*)

My object was to point out to my Volunteer friends how they might employ the engineers when engaged on a war-game exercise—a skeleton manoeuvre; and what an important rôle was theirs in the attack as well as defence, notwithstanding that it was not sufficiently practised at manoeuvres, and but indicated in the Drill-Book—naturally a conservative compilation, but which changes *pari passu* with the times, and in changing will in time doubtless emphasise the advantages to be gained by the active co-operation of the fourth arm in the battle-field, and not leave all its actions to the spur of the moment, and the initiative of the engineers. Nothing, therefore, was said relative to the essential services that fell to the fourth arm in fortress warfare, whether in the attack or defence; in the latter, whether in the enceinte or in the main or advanced line of works; and, in the former, whether with the hidden batteries, close attack, approaches, communications, hutment, base, etc.—their employment here is indeed *Ubique quo fas et gloria ducunt*.

The general who uses his engineers to aid the battle in all its stages will surely gain from it an advantage he wots not of. All will come with time and opportunity, which the engineers should seek. They must practically exemplify that not only in a siege and defence is their motto a true one, but that it is true also in the modern battle, in which they should be represented, from the cavalry reconnaissance to the reserves acting in rivalry with the other arms. This may be safely left to the rising generation of the corps to effect; to the captains and subalterns, whose young, vigorous, and impressionable minds will find in it a task worthy of their steel, and they may surely expect that in their day as hard fighting as ever we have had will fall to them. The training of the engineer officer, the early responsibility thrust upon him, etc., all tend to form in him a self-reliant character. The rank and file also are early compelled to rely on their own judgment and resource, and such qualities are not to be despised on the day of action, for they are factors making for success. Paucity of numbers has led to their value in the field being overlooked, and the fact of their being artisans has caused them to be worked too much as specialists in the field. Their numbers for their field duties require to be very largely increased, and this might possibly be the best, and also economically effected by adding to each artisan company one or more companies recruited from labourers, porters, navvies, and miners, etc., thoroughly trained in all field duties. With the company sectional organisation, such an association should be productive of the best results, and we would see a section of artisans working with a trained company of pioneers, and associated with infantry, one such section and company at least to a brigade, in a manner to gain by it all along the line. Such Militia corps as the Royal Monmouth R.E. (M) are recruited from these classes, and when, on embodiment for field service, they shall have been given the extra training necessary to fit them to take their part in the first line of battle they will form a most valuable addition to the Regular corps.

Each company of infantry in the French Army has an assortment of 48 tools carried by the men, and a load of 30 full-sized tools carried on a mule. The engineer companies (sappers and miners) carry 174 portable tools, and with its park are 2 four-horse wagons for tools, and 2 mules to carry dynamite and detonators, etc. In addition, are the corps engineer park carried on 11 wagons and the Army engineer park of 60 vehicles, and which can furnish the following full-sized tools:—4,200 shovels, 2,130 picks, 686 spades, etc., and spare portable tools for the engineers; it also carries 8,400 sand-bags, 1,102 lbs. of powder, and 2,645 lbs. of dynamite. Such explosives as mélinite and crésylite are also carried by the artillery, as well as Bickford fuse, dynamite cartridges, etc. The entrenching tools, with the artillery, are carried on the wagons.

"The French made little use of their engineers in their last great war; had they at Gravelotte used fortifications to support the troops, with judgment, a different result might have followed." (*Home.*) Their tool carts could not be brought up.

Recent French writers give great prominence to the necessity of the co-operation of the fourth arm on the modern battle-field in all stages of the fight, which may last for two, or even three, days.

General Prudhomme teaches that a retreat must be effected under cover of a reserve of all arms, which has prepared an entrenched position, and that fortifications must be also employed to hold positions against offensive sections, or to gain shelter whilst occupying a holding position, etc. On the defensive (to be transformed into the offensive when it has utilised to the utmost the advantages of ground), the supporting points in the first line are to be entrenched, and, as well, two lines in rear to facilitate its evacuation if necessary; shelter-trenches give cover to troops between the supporting posts. As these defences will only be occupied when the enemy shall have developed his plans, these works will probably be laid out by the engineers under the general's orders, and executed by them and the infantry detailed to hold them.

General Philibert gives to his engineers a most important rôle; he points out that the Regulations refuse to admit it to be possible that French troops should ever retreat, but considers that they should, nevertheless, be trained to act on the defensive and to conduct an orderly retreat; to this end his plan is to cause the reserve to occupy a rear-guard position, 1,200 to 1,600 yards in rear of the fighting line; the position to be fortified by the engineers, under the general directions of the general, aided by the troops destined to hold it; the troops in action in first line to suddenly break off the engagement and to hastily retire, so as to unmask the rear-guard position, and to reform on a pre-arranged rendezvous a mile or two in rear of it. The attackers, he considers, will be stopped by the hot fire from the rear-guard position, and that the attack must be re-commenced. The rear guard, strong in artillery and cavalry, and in having called to its aid ground and field fortifications, and with secure flanks, can delay the advance for some time without committing itself too deeply—an hour or more. It must eventually

retire by successive lines from the front—first line and its supports, second line and partial reserves, line of reserves—each taking up successive defensive positions, one behind the other. It is now or never with the cavalry, and the engineers must give to the *points d'appui* and the lines of defence all their value. Throughout, counter-attacks to be numerous and in force.

On the defensive he causes his advanced troops to occupy cover and *points d'appui* to force the enemy to deploy; having effected their object they retire to unmask the main position, fortified in depth as well as along its front. The retirement of the first line, which is lightly held, should cause no panic in the second line, which should cover by its fire not only all the ground between the two positions but also that passed over by the attackers as they advance to the crest of their first position (high-angle-fire).

General Lewal (from whose writings I have borrowed largely) believes that in the battle of the future, which will last two or three days, obstinacy and perseverance will be all-important. With large forces, a whole day will pass in executing manoeuvres, *works*, partial attacks, etc., and no decisive result will discourage either side; during the night the struggle will continue in a modified form, to be re-commenced with renewed intensity the next day; victory will incline to the side that makes the most of the hours of darkness in preparing for the next day's battle, in eating, sleeping, redistributing troops, and *working*; entrenchments will be thrown up at points menaced, at points gained; gun-pits prepared, also shelter-trenches whence to harass the enemy's artillery; arrangements made for a covered advance, etc. Certain siege works will be called into play to cross by sapping open spaces, to mine against an enemy's heavy artillery and his main works of defence; platforms will be laid, and cover provided for the light siege park dragged by horses; and *although some of these works may be useless, they should not on any account be left undone*; their omission may be repented, *never* their construction. Both sides must persevere until one is completely exhausted; and field works encourage perseverance, and afford periods of rest, whilst they exhaust the attackers.

Each company of Russian infantry has 80 light Linnemann spades and 20 light axes; the heavy tools, viz., 16 spades, 8 axes, 3 mattocks, 3 pickaxes, and 1 crowbar, are carried in the divisional transport column. There are no special pioneers.

Each sapper company carries 100 light shovels, 70 light axes, 10 picks, 20 mattocks, etc.; and carried in carts, always with the company as fighting baggage, 40 steel shovels, 24 hatchets, 5 pickaxes, besides tools, 100 sand-bags, explosives (54½ lbs. proxlyline, 108 lbs. rifle powder, etc.).

The Russians put great faith in the support that entrenching tools give, and consider their use to be an integral part of offensive tactical operations, and without which they would be incomplete.

The German field engineers or pioneers are not a model arm to be copied; at any rate up to 1870 engineers were not "made in Germany."

In the offensive battle of Gravelotte, 18th August, 1870, they were not usefully employed either for facilitating the movements of the troops or for organising the ground defensively, although occasions were numerous in which rapid works might have been brought to aid the offensive. They were chiefly used as infantry, to extinguish fires, bury the dead, etc.

On the 16th August, two companies of engineers were usefully employed in fortifying the village of Vionville, and thus confirmed and established the success of the infantry.

In the defensive battle of Beaune-la-Rolande, fought on the 18th November, the engineer troops were not utilised at all, and the three days which preceded the battle were lost as far as any defensive organisation is concerned, and the troops undertook what works they thought best, without any pre-arranged plan or unity of direction, the pioneer companies and the engineer officers taking no part in the performance.

Beaune-la-Rolande was placed in a state of defence, but even this work was done on no plan, and with no uniformity of idea. During the battle the pioneer companies remained inactive or fought as infantry, with the exception of one only, which was employed upon technical works which should have been carried out on the first day.

Generally speaking we see, therefore, that the German commanders, and the engineer commanders themselves, lacked knowledge of how to employ the engineer arm, and that the latter showed great want of a spirit of initiative and foresight—qualities which should never be wanting in those to whom such responsible action is confided.

General Schobëllof considered that the Germans in their manœuvres made a great mistake in neglecting to construct field works to aid their tactical offensive exercises, and that their engineers showed great inaptitude in adapting them to tactical requirements. When taking up positions to be held on the defensive, each commander is responsible for the defence of his own front, and they are well trained to this extent.

In the attack they trust to onward movement and overwhelming numbers, tactics which may receive a severe check when met by disciplined troops with well-seasoned nerves; it is a question whether two years' service troops, however good the material, would stand the losses that such tactics would then subject them to. Will they not be forced to seek shelter, and when it does not exist, throw it up? They would seem to have missed the "golden mean," but are in a condition to remedy their mistake should circumstances force them to do so, for in the infantry companies every other man carries a tool (100 spades, 10 picks, 5 hatchets, per company).

In the Austrian Army 99 men per company (half a company) carry a Linnemann entrenching spade; the four pioneers carry 2 picks, 2 shovels, 4 hatchets, and 2 saws.

Every engineer company has 72 picks, 144 shovels, and 120 carpenters' tools, carried either in wagons or by the troops; in the wagons are also 275 lbs. of gunpowder and 363 lbs. of dynamite. In

each army corps engineer park are also 400 picks, 750 shovels, 170 carpenters' tools, besides miners' and blasting tools, dynamite, and gunpowder.

In the Italian Army each engineer soldier carries an entrenching tool of some sort ; in the light wagons are carried the necessary tools for sappers and miners, as well as about 44 lbs. of explosive gelatine, and in the heavy wagons besides sappers' tools, sand-bags, explosives, miscellaneous engineer stores.

The infantry pioneers alone carry entrenching and assorted tools.

SCHULMEISTER THE SPY.

THERE is a deficiency of logic in theory and in practice, when mankind agrees that the hirer is freed from any disrepute that attaches to his hireling, whilst the fullest crop of honour that is garnered by their united plans is placed to the credit of the employer and not to that of the employed. Judges penalise the receiver equally with the thief; but the hangman, whose masters claim credit for their own just deeds, is universally execrated; while great generals have from all time utilised spies, and their condemned work has frequently bent the chances of defeat to the current of success and of military repute.

Napoléon Buonaparte excelled in the skill with which he turned venal but unpublished services to his own advantage, and, magnificently bribing both men and women, he refused to sully the Legion of Honour by issuing its order to the extraordinary man, whose demoniacal ability and courage victimised the Austrian Mack in 1805.

M. Paul Muller has lately published an account of some episodes in the life of Charles Schulmeister, under the title of "*L'Espionnage Militaire sous Napoléon I^{er}*"; the basis of his work is two German pamphlets printed in Leipzig, the one as long ago as 1817, before Schulmeister's death; the other, by Herr Dieffenbach, so lately as 1879. Both are in the Library of the British Museum, and the latter is at times procurable at various Continental book-stalls. They are untrustworthy from different causes: the earlier one was written for a set purpose, and the latter one by an author who was unfitted to grapple with the difficulties of the military subjects on which he has written. M. Muller has supplemented the material, such as it is, of these two publications by the proceeds of his own research into manuscript reports still preserved at Paris in the civil and military archives: an uncle of Schulmeister's, named Muller, befriended him in early years, and the author of the French pamphlet may have family interest in the subject of his memoir.

Information, a necessity for every commander in the field, is obtained through several avenues, and if all are neglected, disaster assuredly ensues. Masséna, in October, 1810, hurtled without forethought or foreknowledge against the lines of Torres Vedras, on which heavy labour had been constantly employed during the previous eighteen months. General

Marbot says, in reference to this catastrophe, "avec de l'argent on parvient à tout savoir"; but Masséna was not Marbot, and however skilful in gaining money from public sources for his private revenue, he was parsimonious in expending it for the service of his country.

The ordinary military reconnaissance, sometimes forcibly, conducted by officers at a distance from headquarters; inspection by the General-in-Chief and his staff on the immediate scene of coming action; private correspondence from sympathisers within the enemy's lines; and information purchased from spies, who frequently risk life itself to obtain an article marketable at a price remunerative in proportion to the risk attached to its acquirement—all are inspired by the moving idea of gaining information.

The history of every important war, if faithful in its details, comprises incidents from each department of the catalogue; the secrecy, necessarily appertaining to the latter two, causes an obscurity, rapidly darkening as time runs on, which, after the lapse of but few years, seldom leaves more than salient points discoverable, even to the most laborious student.

At the opening of the French and German war in the late summer of 1870, the well-known Niederbronn ride, during which Winslow was killed, was an admirable example of the first class. Napoléon's personal inspection of the allied position on the June morning of 1815 illustrates the second. General Grant in 1864 both benefited by, and suffered from, the third form, whose existence was assured by intermarriages and commerce long established between the Northern and Southern States. Finally, M. Schulmeister, under many an *alias*, admirably served the ruler of his countrymen, whilst himself in the pay of both the French and the Austrians: and here arose one of the many drawbacks attendant on the employment of those engaged in a course of action generally reprobated by admirable men. Spies in their difficulties are frequently double-dealers: Field-Marshal Mack bought from Schulmeister information regarding the French Army, which, in the main, though tardy, was accurate, but he failed to realise the suppressions of veracity that made Schulmeister's information far more deadly to him than unadulterated lies, the information obtained and sold at high price in 1805 by Napoléon's chief spy was of the highest value to at least three nations; to-day much that he supplied would, under similar circumstances, be purchasable for a few pence in any library in Europe. Thus it arises that in true preparation for war lies the sole safety of those whose interests are imperilled, for absolute concealment and successful exaggeration are, in these days of rapid communication, no longer possible.

The preliminary steps of the French for the Danube campaign of 1805 were threats to the South by skeleton forces who covered the speedy, but not hurried, advance from the North of those greater columns that but lately had formed the invading army for England. The telegraphic development of the present time would inevitably have pierced the cloud then skilfully prepared by the great master of diplomacy and war. If, in these days, Germany was still as disunited as the parts of a child's puzzle, with Austria and Russia combining to fight France, Mack in command of

near 80,000 men would not be separated by 250 miles of country with insufficient roads and several intervening rivers, from the Austrians under Archduke Charles and from their allies, the rapidly approaching Russians.

M. Charles Schulmeister, under the auspices of General Savary, the trusted chief of the Emperor's body-guard, made the personal acquaintance of Napoléon at Strassburg in 1805. He had previously been known to Savary and to the tarnished Rapp, and, having perfect acquaintance with both the French and German languages, he passed under various names as an officer of either Army. Savary had been in command of an infantry battalion in 1796, when Moreau crossed the Rhine close to Neu-Freistett, the dwelling-place of Schulmeister, and this was the beginning of their acquaintance; but the history of Schulmeister's association with Rapp is one of many obscurities, and these were certain to arise, for the workings of a spy are necessarily unacknowledged, and Schulmeister destroyed all records and memoirs that might have thrown light on his past career.

Schulmeister, in its corrupted form Sulmester, Burgermeister, Charles, and de Charles, M. de Meinau, and other traced, and perhaps untraced, names, served as patronymics for this wonderful Proteus.

The anonymous Leipzig pamphlet of 1817 was probably inspired, if not written, by the man himself; it states, truthfully or otherwise, that his grandfather was a banished Hungarian noble, named Biersky, who settled in Baden about 1730, and, getting work as schoolmaster, he adopted the synonym. The son became pastor of Neu-Freistett, near Strassburg, and his second son, born on the 5th August, 1770, was Napoléon's spy. When twenty-two years old, he married, in the Lutheran church of Markirch, Mademoiselle Unger, a girl of eighteen.

From 1792 until the early part of 1797 he was on the register of his native village as ironmonger, and later in the same year he was domiciled as grocer and tobacco merchant in Strassburg. From the hearsay evidence of men still alive in this generation, he pushed a thriving trade in contraband at the head of a reckless gang, and evidence existed but twenty years ago that he continued in the practice of this profession during the waning years of the Empire, even in the affluent circumstances to which he had then attained; his contemporaries affirmed that smuggling had to him proved a perfect gold mine. And this was probable, for the proximity of Schulmeister's house to the Rhine and the German frontier offered a fair field to an able and courageous man. War and the Continental system closed many avenues of honest commerce, hence the increased profits of illegitimate trade were, in favouring situations, a constant source of temptation.

In a report dated from Munich on the 26th October, 1805, he makes mention to Savary of an officer in the Lichtenstein Hussars, then acting as aide-de-camp to the Austrian general Kienmayer. To the hussar he "was bound by the ties of friendship since the last war," from which a just deduction may be made that he and his friend "Rulski," who now received more than the thirty pieces of silver, had only reverted to an established habit.

Espionage was not the prerogative alone of the French; three ministers abroad of the English Government at home, had entered into negotiations with traitors in France, of whom one, in order to save his own life, exposed his employers, the British representatives in Bavaria and in Würtemberg, and these continued their traffic with the double-dyed traitor long after he was in the employ of the secret police of the Empire. Thus, in the diplomatic game preceding that campaign, whose scene was changed from the borders of the English Channel to those of the Danube by Villeneuve's retreat to Cadiz, the cards were marked; the successful trickster among the players was Napoléon Buonaparte.

Schulmeister was probably, but not certainly, the agent who watched the unfortunate Duke d'Enghien, and reported his frequent visits to the theatre in Strassburg from his residence in Ettenheim; a letter on this subject to the Prefect of the Bas-Rhin has the signature carefully erased, with the exception of the suggestive initial S. The prefect, M. Shée was ostensibly inimical to Schulmeister, and the arrest of the Duke was mismanaged; it was thought that Dumouriez might be caught in the same haul, but a mistake in identification landed the Marquis de Thumery in the net, and Dumouriez escaped.

The accuracy of many of the statements contained in the anonymous pamphlet of 1817 may be questioned: if Schulmeister himself was the author, and he at least was the inspirer, a garbled version of the occurrences throughout 1805 is to be expected, and the detailed statement of his expatriation and faithful service to Mack cannot be received as true history, but might well be the view that he wished the Germans to hold at the time it was written. Records demonstrate that throughout the Ulm campaign he was a brilliant assistant to the French staff.

The warp of Napoléon's war schemes was inextricably interwoven with the weft of diplomatic *chicane*, and the intermixture is visible in the whole of his conceptions from 1796 to Waterloo, but in no set of operations was the weft in such prominence as in 1805. The Corsican artist, with consummate skill, made Prussians and Bavarians alike mark the design, in which he and they are immortalised.

The Danube campaign of that year, with its sensational scenes of the Ulm surrender, the capture of Vienna, and the victory at Austerlitz, was one of the three most admirable strategical combinations that the wit of even Napoléon Buonaparte could devise. The perverse refusal of General Mack to conform with the proved and accepted rules of war made him an easy victim, and of the arguments that induced the refusal, those presented by M. Charles Schulmeister carried preponderating weight. Mack endeavoured to conduct intrigues against an equal of Machiavelli; the game was lost when the players were named, and long before the cards were dealt.

Archduke Ferdinand was the nominal commander of the advanced Austrian force, with Mack as a working adviser, but the latter speedily assumed all responsibility. The Royal Duke's able brother, Charles, was, with 100,000 men, on the Adige opposing Masséna, who commanded an army of half his opponent's strength. The French made brave and well-

devised attacks, but Archduke Charles only retired when the fall of Ulm was an ascertained fact, and his own capital was threatened.

In August, 1805, Austria joined the coalition already formed between Great Britain and Russia, and of this junction the French Emperor was promptly informed. Villeneuve's want of skill made the invasion of England, previously hazardous, now impossible; but for the military destruction of one or more of the Continental Powers, Napoléon justly considered himself adequately prepared.

He left detachments and dépôts, into which large batches of conscripts were drafted, to guard Belgium and the northern frontiers of France against possible attack from across the sea, and marched the Boulogne Army and a large force from Hanover with incredible rapidity, towards the Danube towns of Donauworth and Ingolstadt. Murat's cavalry, with slight infantry supports, advanced from Kehl through the Black Forest, and sought no concealment; but the movements of the massive columns from the northern crossings over the Rhine, and from Hanover, were skilfully hidden for many days, and Mack, far separated from his base, faced Murat, whilst absolute ruin was closing on his rear.

To lull him but for few days longer in his fool's paradise was the congenial work of M. Charles Schulmeister. The police throughout France gagged the journals, Napoléon remained at Boulogne and dawdled thence to St. Cloud, but quitting Paris on the 24th September he was at Strassburg in two days and over the Rhine in three. Even Kienmayer, intermediately supporting Mack, now recognised the danger from the north, and fell back on Munich; but Mack at Ulm was unmoved and unalarmed.

His total force, originally consisting of some 80,000 men, was within the stroke of twice their own number, and on the 9th October the first swish of the stroke was felt. Lannes, Ney, and Bernadotte seized the river passages east of Ulm and severed him from all hopes of salvation; Napoléon's *coup de collier* was imminent. Lack of true information and faulty grasp of the military situation were painfully apparent; a somewhat rash movement made under Murat's direction, by two of Ney's divisions, was represented to Mack by Schulmeister as the commencement of a French retreat on the Rhine. Many-tongued Rumour, carefully fostered by Schulmeister, announced a revolution in Paris and an English landing at Boulogne, and on the 14th the Austrians received orders—Heaven save the mark!—to move in pursuit. Time and precision are the essentials of all military movements, and it was of supreme importance for Napoléon that Mack should take no similar steps to those already made by Kienmayer. At any time of the 72 hours from the 11th to the 14th Mack had fair chance of success by marching bodily north of the Danube towards Bohemia, and indeed for a short interval Dupont's solitary division alone opposed him on that line; but the honeyed words of Schulmeister were credited, and the fleeting hours passed with no recurring opportunity. For a movement on the 13th, Mack intended to move, and his march on Nordlingen might seriously have harassed Napoléon's line of communication; but the reported revolt in Paris, the

imaginary British threats on the northern coasts, and the supposition of a French excentric retreat to the Rhine and the Tyrol—all the inventions of his trusted Schulmeister—shattered his one sane plan, and the arguments he used in his court-martial defence, which Herr Dieffenbach justly calls a "Gallimathias," are illogical, unreasoned, and unsound.

Simultaneously with the issue of Mack's orders for pursuit, Soult captured Meinningen, forty miles south of Ulm; Jellachic, detached by Mack, in imaginary pursuit of a really advancing enemy, barely escaped to the Tyrol, and by the evening of the 14th the circlet was gravely contracted. Soult was in proximity to Ulm on the south and south-west; Marmont and Lannes were on the south-eastern quadrant, with Ney astride the Danube to the east. Dupont and Murat in the north, left but a trifling gap between their right and Soult's left, yet through this gap the Archduke Ferdinand, the nominal commander, escaped at night with 2,000 horsemen; and Schulmeister, officially recorded as Mack's "confidential spy," started for Wurtemberg, questing information never to be reported by that bird of ill-omen to his Austrian employer.

On the 15th, the realities began to penetrate Mack's obtuseness; his morning order exaggerated the hardships, which the French, in common with all soldiers in the field, were suffering, but no longer contained the word "pursuit"; on the contrary, his own "wet ditches" defied assault, "till the advanced guards of the rapidly approaching Russians and Austrians should bring relief." Scarcely was the order issued, when Ney stormed the high ground of the Michelsberg, and thence bombarded the town. Surrender was inevitable, and on the 20th the captured half of Mack's army defiled before the French Emperor; one-quarter of his original force had escaped in different directions, and the rest was expended in killed, wounded, or missing.

Mack's defence at the Court of Inquiry and the records of the Grand Army practically agree, as to the gist of the information afforded by Schulmeister; but Mack makes frequent mention of a Captain Wend, then serving on the Austrian staff, and implies that Schulmeister was his underling; reports by the latter to Savary also mention Wend, and it is clear that much of the information supplied to Savary was wittingly, or unwittingly, gathered by Wend.

The curtain was scarcely drawn on the first act of a drama, in which Schulmeister had played a master part with consummate skill, when it rose again for the second act, and in this he took a prominent part, but not one that exclusively filled the stage.

Less than six days had elapsed since the prisoners' parade at Ulm, and Schulmeister was 150 miles away at the headquarters of the Austrian Army in the town of Braunau on the Inn. He found time during a meandering passage from one place to the other to remit two despatches, both dated 21st October, to Savary, and both dealing with the military aspects of the remnants escaped from Ulm; these reports are written with professional skill of the highest order and are still extant. Armed with a passport from Mack, he received money from a staff officer at Braunau, in payment for the information he afforded of the French

movements, and again disappeared under promise of a return, which was never fulfilled.

On the 26th October, Schulmeister sent to Savary, from Munich, a detailed report of the position of Kienmayer's Austrians, who had fallen back when Ulm was in danger; of the forces commanded by Archduke John, now retreating from the Tyrol; and of the Russian forces, who, under Kutusoff, were lingering on the right bank of the Inn, whilst awaiting the arrival of the two other Russian armies, whose march had been unduly delayed by the hesitating jealousy of the Prussian King.

The report was founded partly on his own observations and partly on a reconnaissance made by Rulski, the Hussar aide-de-camp to Kienmayer, and "my friend since the last war," "who was the more open with me, since your generosity, my General, enabled me to be open-handed with the officer himself"!

A critical fortnight is missing from the history of Schulmeister's life; apart from an unconfirmed statement in the anonymous pamphlet, we know nothing of his doings from the date of the last report till the 13th November. The pamphleteer may perchance have lapsed into accuracy: he states that Schulmeister accompanied Kienmayer and Kutusoff in their retreat, that he was present at several Councils of War, and as a staff officer took part in various military discussions, and finally that he was sent to Vienna, under arrest as a suspected spy and a traitor.

Tried and condemned in the city, the sudden arrival of the French troops alone prevented his execution; he escaped from custody, and on the 13th November took refuge with Savary at Vienna, who promptly made him Commissary-General of Police.

Research tends to show that the National Archives in France contain no record of his civil employment, but there is in the War Ministry a report from him dated "Brünn, le 30 Brumaire, an XIV." (*sic*); it begins "Mon Général," but is otherwise unaddressed, and specifies the secret hoardings of equipment, stores, and food in the city and its suburbs. He forwards information collected by a subordinate as to the movements of the Russian armies and the design of their leaders. A plot for the assassination of Napoléon excites his pious horror, and he wisely suggests that money should be raised to continue the urban buildings, as work would turn from revolt those idlers whose lack of employment rendered them a dangerous class.

Under the new signature of Charles Frédéric he again writes to Savary from "Vienne, 26 Frimaire, an XIV." (*sic*), that is the 17th December, a fortnight after Austerlitz, giving many soldiering details of the Army and the headquarters of "Prince Charles." Four days later, with the same signature and from the same place, he reports information gathered from his subordinates of internecine difficulties between Hungarians, Austrians, and Russians near Buda-Pesth. M. Schulmeister was evidently now at the head of a numerous, efficient, and well-organised intelligence department, which enabled him on the 31st December to describe with minuteness the miseries of the allies, the shoeless state of

their infantry, their want of powder; the alarming amount of sickness in horses and men and the scantiness of food from which all were suffering.

The French evacuated Vienna on the 12th January, 1806, on the conclusion of the Treaty, and their National Archives still hold Schulmeister's passport, which sheltered him through Alsace to Paris.

A mystery, now impenetrable, hides the motives completely, and the actions partially, of Schulmeister during the ensuing months. He went, for some untraceable reason, to Vienna, and was there arrested on the 31st March in company with Surgeon Rippman, one of his associates; he was imprisoned for four months on a charge of communicating with the French whilst in the pay of Mack; he pleaded that he had received authorisation so to do from the two generals Mack and Merveldt; but they denied his statements, and conviction ensued. Diplomatic pressure, after some delay, obtained his release on the sufficient grounds that, not being an Austrian subject, he was unamenable to Austrian law, and that not having been arrested when directly performing an act of espionage, his return to the country he had injured failed to render him liable to punishment; his colleague was hanged without shrift or remonstrance from the French Government. Rippman was probably one of another nation; and the last of the trio, the Jew horse-dealer Hammel, reported that "he died between heaven and earth."

On his return to Strassburg, Schulmeister purchased an estate containing a park and a considerable lake, which he named *Le Meinau*; and, after two years, he was widely renowned in the district for the grandeur of his newly-erected château and the ornate splendour of his landed property.

Pitt, heart-struck at the failure of his last work—the third coalition—died, and war rekindled in 1806. The flame was fanned from at least a threefold source: the attempted formation of the Northern Confederacy, hostility on the part of Prussia to the suggestion that Hanover should be rejoined to Great Britain, and the refusal of Russia to accept Napoléon's proposed confederacy of the Rhine.

Until after the great battles in October of that year, nothing is known of Schulmeister's employment. Savary, whilst hounding to the Baltic shores one of the several fragments from Jena, used "*l'émissaire Charles*" as a tracker, and hurried him into Wismar with a detachment, paltry in numbers, but sufficient to delay General Usedom from occupying the town till Savary arrived with the main body on the 5th November, and then Usedom surrendered. According to another version of the story, Usedom was in actual occupation of Wismar on the night when the French patrol arrived; but the Prussians were disheartened, and Schulmeister, backed by the municipal authorities, frightened them out of the town into the arms of Savary. The municipal records of Wismar make no unkindly mention of "*Captain Charles, aide-de-camp of General Savary.*"

During the long and anxious winter of 1806-7, Napoléon was living with a large and growing army in East Prussia; he gathered recruits from many countries and by many routes, until the severity of a Russian winter

had passed and field manœuvres became possible, by which time an Army of 160,000 men was under his immediate command.

In May, Dantzic capitulated to Oudinot and Lannes, but Königsberg held out till it was evacuated on the 16th June, two days after the result of the battle of Friedland had eliminated all hope of relief. During the battle on the 14th June, Schulmeister was wounded in the forehead, and the scar of the wound was to him a fruitful source of pride many years later in his green senility.

M. Muller states—accurately as to fact, but no doubt inaccurately as to date—that “M. Charles” was installed as Prefect of Police in Königsberg, under Savary the governor, on the 9th (!) June, a full week before it was evacuated by the defenders. Local documents admit the identity of M. Charles and Schulmeister, and the liberal gifts from the deputies of the town to the governor bear eloquent testimony to the judicious management of the Prefect.

In July, 1807, Schulmeister returned to his own Capua, carrying a letter from Savary to the criminal judge at Strassburg, which successfully urged that functionary to force one Rübsaamer to refund certain moneys, the property of Schulmeister, which had been misappropriated during the time that both he and Schulmeister were employed in collecting information under the orders of Savary himself.

The secret Articles of the Tilsit Treaty were within the knowledge of the British Government, and led to their ordering, in the autumn of 1807, the capture of the Danish fleet, which indirectly led to the bombardment of Copenhagen, much to the dismay of Napoléon and the anger of Russia and other Powers. The hands of the French Emperor were amply filled by the affairs of Continental Europe and Italy, when the rising pains of the “Spanish Ulcer” became acute. Murat occupied Spain, and Junot seized Lisbon; Ferdinand, at Savary’s instigation, crossed the frontier and reached Bayonne in April, 1808, where, after a personal interview with Napoléon, he resigned the Spanish throne in favour of Joseph Buonaparte. But French affairs marched badly in the Peninsula, and the absence of the Emperor allowed symptoms of revolt to grow apace in Eastern Europe. Napoléon arranged a conference with the Emperor of Russia, to be held at Erfurth, and in the middle of September Schulmeister, by Savary’s urgent directions, took command of the police during the conference, which lasted with gorgeous pomp for seventeen days.

Seven of his reports, from the 28th September to the 4th October, all addressed to Savary and dated from Erfurth, are preserved in the French National Archives. The earliest letter describes the actions and conversations of people in all conditions of life; commencing with dukes and duchesses, he ends with card-sharpers and thimble-riggers. The letter of the 29th, which followed, enters somewhat into prophecy as to the future peaceful conduct of the townspeople, “if not seduced by the ill-disposed”; but a courier has lost the despatches he was carrying to Denmark, and the secret agents are at fault. On the 30th September he reports the satisfaction expressed by the inhabitants at provisions being supplied by the Government to the troops, as the system of unrecom-

pensed billeting was the cause of a general ruin; but the lost despatches are still being sought and unlicensed gambling is sadly on the increase. On the 1st October, the suburban residents are crowding into the town to avoid the exactions of the outlying soldiery, and Prussian sympathisers are holding nightly conferences, which, however, are attended by the satellites of the Police Prefect. An enquiring person was arrested during the evening for undue curiosity about the number of troops and the probable destination of the two Emperors on quitting Erfurth. The gambling saloons cause frequent disturbances, owing to disputes between the bank and the players, but much enthusiasm is always evinced when the French Emperor is seen in the streets.

On the 3rd October, the enquiring man is released, after examination, as being a harmless, but inquisitive, burgher. Marauders rob strangers at night, and the Prefect is in course of having them arrested.

The seventh and last report bears date 4th October, and it beams with satisfaction at the political calm, which generally pervades the town; the police have leisure to arrest the purse-snatchers who haunt the theatre doors; but Prince William of Prussia, the Prince of Coburg, and "Vice-Président Reck" attended a secret meeting of Prussian sympathisers, where the subject of discussion was a two-fold interview between Romanzow and Talleyrand, which lasted on both occasions till two in the morning.

The Austrian Ambassador sends Captain Ogonelika, as courier conveying despatches, and expects his return to-night, hence the important personage he seeks must be near the frontier.

A Jew, named Abraham Bernard, of Amsterdam, and Jean Daniel Daunenberger, of Berlin, are arrested by a round dozen of police agents at the door of the theatre, and in their possession was a ring and some marked money, stolen from M. le Comte de Goltz, serving on the staff of Prince William of Prussia; the property is returned to the rightful owner and the two thieves are locked up, together with two other individuals, named Stein and Schwalba, who were already under arrest as suspected characters.

Napoléon, ostensibly convinced that he was in full agreement with Russia, and in the belief that Austria was too weak to regurgitate, joined Joseph at Vittoria in November and faced the Peninsular difficulties. On his arrival he found, to use his own words, that the French held only the ground on which they camped. Sir John Moore's column was the backbone of defence and on him Napoléon turned his outnumbering forces; in January, 1809, Moore was killed, and Corunna was evacuated by the English; Napoléon leaving his marshals to wrangle among themselves, was back in Paris on the 22nd of the month. He had full information of the rapid arming of Austria, of the growing hostility in Germany, and that Talleyrand was filling Paris with sinister rumours of Spanish affairs.

Europe was permeated with secret societies; 200,000 fine French troops were in the Peninsula; and along the irregular line from Naples on the right, to Hamburg on the left, the military position was desperately

against the French except for three reasons: the Continental nations were not organised for war, they were mutually jealous, and Napoléon commanded the French armies.

In April, the gathering clouds burst into storm. Austria and her allies on the one side, and France with hers of doubtful faith on the other, each had a full 300,000 men under arms, and troops commanded by Oudinot and Masséna were hurrying in forced marches from Spain to the Danube. The beacon fires lit on each commanding mountain in the Tyrol, and the tell-tale sawdust floating down the Inn, gave signal for the outbreak.

Savary, taking Schulmeister with him, rushed through Strassburg to the central French army, shortly before the arrival of Napoléon and Josephine on the Upper Rhine. The Empress and her Court remained in Alsace; whilst Napoléon, who in Paris had received on the 14th, by the rude telegraph of those days, the information that Archduke Charles crossed the Inn on the 12th, reached Ingolstadt on the 18th.

Davoût, through a misunderstanding of orders, was still at Ratisbon, forty miles away down the Danube; Savary and "another officer" were sent to bid him join the main army now concentrating on a position, covered by the little river Abens, fifteen miles east of Ingolstadt; and the messengers, threading their way with difficulty through the belt of woods, between the hostile cavalry and the Danube, successfully performed their perilous mission.

Schulmeister on his return was appointed Commissary-General of the Armies, and his duties were numerous and far-reaching: police, marauders, loggards, and the collection of information were all branches of his department.

The Austrians began the campaign with four armies—one in Italy under Archduke John, one in Galicia under Archduke Ferdinand, one in Bohemia commanded by Bellegarde—the Duke of Rovigo in his memoirs erroneously puts M. de Klenau in Bellegarde's place and transfers the latter to the Tyrol. The Grand Army was south of the Danube, close to the frontier of Lower Bavaria, under Archduke Charles, and Chastellar's lesser force was in the Tyrol assisting the insurgents.

Charles, having crossed the Isar at Landshut, sent two corps to mask the Abensburg position, and on the 19th, with his main body, turned northwards towards Ratisbon, intending to isolate Davoût: with that marshal worsted and the bridge in Austrian hands, the 45,000 men in Bohemia could rally to the archduke, or he to them; indeed, the latter was that which happened, as the victories of Landshut, Eckmühl, and Ratisbon made the continued tenure of the country lying south of the big river an impossibility for Archduke Charles.

Napoléon himself attacked the two corps under Hiller on the 20th, drove them back, and, continuing pursuit the following day, hustled them through Landshut and across the Isar. Savary, accompanied by Schulmeister, led the advance when a critical stand was being made at Landshut bridge, and in his memoirs he courteously gives the credit, for a very gallant action of his own, to General Mouton and his supporting

battalions. The bridge, already fired by the Austrians, was saved, and the great road running south of the Danube to Vienna was unimpaired.

Savary and his attendant, Schulmeister, were present at Eckmühl and at the assault on Ratisbon, where Napoléon was injured by a spent ball; leaving Davout to hold the Archduke Charles in the event of his trying to recross at that place, the French Emperor, on the 26th, had 100,000 men marching towards Vienna: an ill-planned direct attack on Hiller at the crossing of the Traun cost both sides the lives of many men, and on the 10th May the Emperor was in front of Vienna. After a severe bombardment the city capitulated, and on the 13th—a month and a day since he had left Paris, Napoléon—for the second time, entered the Austrian capital.

The rapidity of the Emperor's advance caused personal inconvenience; his secretaries, his cabinet, and his horses had failed to overtake him, and sailors ordered with rare prescience from Antwerp, as early as the 9th March, only reached Vienna after its capture, and after the lost battles of Aspern and Essling on the 21st and 22nd May; but they arrived in time to assist in the second Danube crossing, which led, on the 5th and 6th July, to the somewhat Pyrrhic victory of Wagram.

General Andréossy was appointed Governor of the city, and Schulmeister Commissary of Police; and he continued in that employ, but, from political causes, not always as chief officer, until the withdrawal of the French troops. He acted with the courage and judgment which he had previously shown at Königsberg and at Wismar. Savary wrote to the Emperor on the 12th May:—"Whilst I was speaking to some peaceful citizens in the Faubourg I was stoned by the mob; M. Schulmeister, of Strassburg, bid them keep the peace, but he had to blow out the brains of one of the leaders before we could get clear of the 500 ruffians."

Several of Schulmeister's reports during the occupation of Vienna, from the 13th May till the Treaty was signed in October, are extant. The day of the occupation he reported to Savary on the state of the city, and the futile means that Hiller and Prince Maximilian, the Emperor's brother, had taken to raise the inhabitants *en masse*. On the 17th he is searching for concealed arms and circulating notices to appease the populace. Another report to Rapp, probably written, but not signed, by Schulmeister, gave warning of threatened "Sicilian Vespers," but by the 21st public feeling was in an improved and tranquillised state. In June various Prussian officers passed through into Hungary, and the papers seized from one of them proved that they were engaged to raise a free corps. The correspondence of two British subjects was "controlled," and on the 26th June well-founded information was received of a projected attack on the bridges established by the French. Scarcity of provisions caused difficulties to bakers and to butchers, but as soon as the results of the battle of Wagram became known things quieted down; yet, even after that, people suspected of conspiracy were occasionally arrested and examined. The casual words are noted of an Austrian staff officer who attended Prince Lichtenstein when in conference with the French Emperor. On the 7th August a stamp issuer is reported for

malversation of public funds, and Schulmeister's note on the case is marked "seen and approved" by the General Governor of the city.

Many conspirators were busy during September and up to the 14th October, when the Treaty was signed, shortly after which the French troops were withdrawn, and Schulmeister retired to La Meinau.

The Château de Piple, the residence of Marshal Saxe till Louis XV. gave him Chambord, beautifully situated some four miles to the south-east of Paris, was now purchased by Schulmeister; both there and at La Meinau, during four years of seigneurial life, he dispensed to rich and to poor a lavish hospitality; but March of 1814 saw the allies in Alsace and in Paris. The name of Schulmeister was not as frankincense to Teutonic nostrils, and the Château de Piple and La Meinau were ruthlessly pillaged.

The unpopularity of the ever-remembering, never-learning Bourbons waxed with the days, and by July discontent and misery filled France with conspirators. Rightly or wrongly the former Commissary-General of Vienna was denounced by German journals as the prime conspirator, and a warrant for arrest was issued in consequence, and this he barely evaded; but the conspiracy, of which he was considered a directing spirit, in a few short months kindled Europe into flame.

No records are certainly known of his further life till the commencement of the hundred days, but he then re-appeared in Paris, and at their close was arrested by the chief of the Prussian police, escorted to Wesel and imprisoned till November. The pitcher that had made so many journeys to the well was at last well-nigh broken. A legend in Königsberg attributes the release of "Charles *alias* Schulmeister" to the high character he earned when Prefect of that place in earlier years, but the heavy fine which now crippled his fortunes possibly had some influence on the result.

Schulmeister no longer took outward part in political affairs; imprisonment and sorrow had weakened the springs of life; he found himself elbowed from the highest class of French society; but the verdict of Strassburg may be accepted, "A spy he was, but assuredly a gallant man."

The ruling spirit of secrecy prevailed till late in life; he met a fellow townsman, Professor Reuss, in Leipzig, effusively begged his company at dinner, and said he was travelling under the name of Meyer. The Strassburgian, punctual to the *rendez-vous*, found "M. Meyer" had one hour previously left for an unknown destination. As in his person, so in his surroundings: in April, 1870, a large bureau was sold by auction in Strassburg—it was a mass of unsuspected spring handles, secret drawers, and concealed panels, and had undoubtedly been the property of Schulmeister.

The lean years came on him whilst, as age is reckoned, he was but little past middle life. The Château de Piple was sold in 1818, and La Meinau failing to find a purchaser at that time, he farmed his estate himself till 1836, when a beetroot sugar-refining company partially took it off his hands; but the company in which he was a shareholder fell

into bankruptcy and "le père Schulmeister," as he came to be called, found refuge in a "bureau de tabac." He preserved his polished manners and his dignity, and in 1851 he declined to bring himself to the notice of Napoléon the nephew. "No, the Prince knows I live in Strassburg; if he wishes to see me he can say so"; and the Prince after the *coup d'état* courteously visited the octogenarian in his retirement in the Place Broglie.

A descriptive portrait of this remarkable man is to be found in a journal kept by M. de Gassicourt, when in medical attendance on Napoléon during the campaign of 1809. A long description may be thus summarised:—In Vienna I met the French Commissary who was in charge of the police. He is a Strassburgian, named Charles Sulmester, a man of rare courage, of imperturbable presence of mind, and of prodigious shrewdness. In Napoléon's early campaign in Germany he was head spy, and earned 40,000 francs a year. In 1805, he was employed to take a letter from the French minister to an important person in the Austrian Army; having crossed into the enemy's lines with unimpeachable passports, and in the character of a German jeweller, carrying a stock of precious stones and jewellery, he was betrayed, arrested, and searched. The letter was found in a double-bottomed box, and the people who found the document read the contents aloud. He was ordered for execution the following morning, but recognising among his guards a French deserter, he found means to drug the wine of the others and both escaped. Before rejoining the French—much to his credit, still more to his peril—he communicated the whole story to the intended recipient of the letter.

De Gassicourt was assured of the truth of this story by a score of officers, serving at the time and fully acquainted with the facts; he adds, "A whole army corps would have failed to keep order in Vienna during the second occupation, where this bright-eyed, firm-speaking man absolutely succeeded."

He was censor with full powers over theatres, publishers, and religious houses, and his rule, though inwardly of steel, was outwardly of softest velvet. His press censorship was worked on strange lines; in Vienna, before the occupation, there was an *Index expurgatorius*, in which were the works of Voltaire, Diderot, Helvetius, Montesquieu, and d'Holbach. Schulmeister caused them to be translated, and they were sold broadcast in both languages; clerical influence was in the ascendant, but he prided himself on having relegated the priests to ecclesiastical establishments, and prevented them from preaching fanaticism in the streets and in the hospitals. His assurance about the English House of Commons was greater than his accuracy. *L'Esprit des Loix* of Montesquieu is not a text-book of its proceedings.

On the 8th May, 1853, Schulmeister died at Strassburg, and was buried beside his wife and her parents in the cemetery of Saint Urbain; thus passed away, at the age of 83, a man of great powers of mind and of body, who had taken a masterful, but generally unrecognised, part in the lower stratum of the actors during the Napoleonic era.

JAVA CAMPAIGN OF 1811.

I HAVE taken the following account of "The Java Campaign of 1811" from that portion of my father's MS. journals which he kept during his service in the island of Java in 1813-15. My father, who was then a subaltern in the Bengal Horse Artillery,¹ accompanied a force² from India in 1813, composed of Cavalry and Horse Artillery, which was sent to occupy various points in the island. He was not, therefore, present himself during the events described in the following pages, and he has only recorded one of the most brilliant incidents in British military history from the pen of "An Officer who was engaged in the Storming of the Entrenched Post of Cornelis." The account is incomplete in many important details (for instance, the strength and composition of the British force and the extent of its losses are not given, neither is mention made of the relative proportion of French to Dutch troops defending Fort Cornelis), and yet the narrative may prove of interest, as it was written so soon after the fighting occurred and whilst the events were fresh in the minds of those who were present on the occasion.

W. E. GOWAN,
Lieut.-Colonel (Retired).

1st July, 1897.

¹ He afterwards became Lieut.-General and C.B. and Colonel-Commandant.

² The Bengal portion of the force, which was styled "The Java Light Cavalry and Horse Artillery Volunteers," consisted of the following:—

Commanding the United Corps—

Major L. O'Brien, 8th Native Cavalry.

Horse Artillery Troop—

Captain J. P. Boileau

Lieut. G. E. Gowan

Lieut. and Adjutant S. Parthy

} Bengal Horse Artillery.

Native Cavalry 3 Troops—

Lieut. S. Reid ... 8th Native Cavalry.

Lieut. S. Bacon ... 1st " "

Lieut. and Qmr. H. I. Ker ... 7th " "

Lieut. F. Perret ... 3rd " "

Lieut. C. P. King ... 4th " "

Lieut. G. Roxburgh ... 6th " "

Lieut. H. De Burgh ... 2nd " "

Lieut. G. A. Kempland ... 8th " "

Lieut. G. Burges ... 5th " "

Lieut. T. M. Taylor ... 5th " "

Assistant Surgeon G. King.

Riding Master R. McAuliff.

On arrival in the island of Java the above detail came under the command of Major-General Gillespie, Commanding the British Forces in the island.

The ground between Weltevreden and Cornelis rises gradually, and about half way there is a plain where the Dutch made a stand in the morning of the 10th August, 1811. The enemy's right was protected by the Slokkan and his left by the great river of Batavia, over which there was a bridge. Pepper plantations concealed the Dutch lines, and an *abatis* blocked the road by which the British left was advancing. Behind the *abatis* were placed four horse artillery guns, which opened fire as soon as our troops arrived within range of grape shot. At the same time the enemy's infantry occupied two villages, stretching along both sides of the road, and from there they kept up a brisk musketry fire. The enemy's guns were answered by three pieces of large calibre attached to our advancing force, whilst our riflemen made sure of their aim along their whole front. The two villages occupied by the Dutch were at length set on fire, and our troops with a rush charged and took their guns at the point of the bayonet. The enemy having sustained a severe loss in officers and men, fled to Cornelis. As the immediate result of this brilliant affair our troops, who had previously advanced no further than the town of Batavia, now took possession of the healthy cantonment of Weltevreden, a most essential step towards the preservation of the lives of our soldiers.

Preparations were now made for driving the enemy out of their stronghold at Cornelis, an entrenched post protected by two streams, the one on the east, the other on the west, with numerous batteries guarding every approach. The circumference of these fortified lines comprised nearly five miles, and the extensive works were defended by 280 pieces of cannon. Here the whole of the French and Dutch combined forces, which had been considerably augmented by recent reinforcements from Europe, were concentrated under Marshal Janssens and General Jumel, the senior military officer, who had neglected no means that could be adopted to render these formidable lines, strong enough on account of their natural position, still more secure by scientific skill.

During the night of the 20th August the British Army broke ground within 600 yards of the enemy's works. The troops, detailed for the attack, under Colonel Gillespie, formed the guard over the trenches, and every measure was taken to secure the safety of the working parties, who continued their labours unmolested the whole night. At daybreak on the 21st the enemy opened a heavy fire, which did a certain amount of damage to the yet unfinished batteries and annoyed the British troops in their operations of relief. Still the works went on, and with such effect that by eight o'clock in the morning of the 24th August a tremendous fire was opened on the enemy, who returned it in a spirited manner.

It soon became evident that cannonading the enemy's works would lead to no decisive results, and that it could not long continue without material injury to the assailants, especially as the enemy were still actively employed in strengthening their lines of defence. The necessity, therefore, for a more decisive method of attack became obvious. In the following up of this idea the principal difficulty lay in ascertaining the point most favourable for an assault, the greatest precautions having been

taken by the enemy to keep the real state of affairs at Cornelis a secret, even from the inhabitants of Batavia. A very imperfect knowledge only could be obtained by reconnoitring, owing to the natural features of the position, whilst information furnished by deserters was little to be depended upon, though it was plain enough from their statements that no ordinary pains had been taken to render the front towards Batavia as strong as possible. A frontal attack was therefore considered unadvisable, not only because of the risk which might attend it, but chiefly on account of the certainty of prodigious loss to the assailants, even in the event of their ultimate success. A plan for turning the enemy's left by a path leading round the entrenchments on the side of the great river was then proposed, and for this a deserter offered himself as a guide. But, after most careful investigation, it was found that this path would admit of only one file abreast, and to attack 13,000 men strongly entrenched by such a passage appeared too hazardous to be attempted. From all the observations that could be made, the natural inference was that the enemy were as well secured towards their rear as to their front, and subsequent events proved that their rear was really their strongest side. An assault on their left flank was equally objectionable, as the great river which covered it was unfordable and ran between steep banks, whilst beyond it extended an almost impenetrable jungle. The only remaining points to be considered, therefore, was the enemy's right on the Slokkan, and this was unquestionably the weakest side. From the openness of the country, too, in this direction it was more easy to make observations; but reconnoitring on this side was discouraged by our general, lest the enemy should form suspicions as to his intentions. Particular information was desirable as to the exact position of one of the redoubts, which, it was believed, lay beyond the Slokkan; and, fortunately, correct knowledge as to this was at length obtained at the very moment when it was most required. An intelligent sergeant, who had deserted from that very redoubt on the 24th August, described exactly its position, and that of the bridge which connected it with the rest of the enemy's works, and also the defences by which it was protected. On receipt of this timely information the plan of the British attack was settled, and two days later the fate of the island of Java was to be determined by the successful storming of the formidable lines of Cornelis. Colonel Gillespie was appointed to the command of the principal attack, and the troops under his orders consisted of the infantry portion of the leading column. Colonel Gibbs was appointed second in command.

The force moved off soon after midnight of the 25th August, and long before dawn on the 26th it was on the route by which the deserter, who was acting as guide, had escaped. After making a *détour* of many miles through a country which offered serious obstacles, many of which could only be surmounted in single file, the great darkness of the night caused the troops in the rear to get separated from those at the head of the column, and to lose their way. This circumstance was only reported to Colonel Gillespie as his part of the advance had approached quite close to the enemy's works—so near, indeed, that in order to escape

being discovered by their scouts and patrolling parties, it became necessary for Colonel Gillespie to direct a retrograde movement. After this had been carried out for a short distance the party again faced towards the enemy, and waited in anxious expectation for the return of the messengers who had been sent to bring up the rear of the column. Daylight was now fast approaching, and therefore to delay any longer for the missing portion of the force to come up would have exposed Colonel Gillespie's party to certain discovery, whilst a retreat would have been pregnant with incalculable mischief, inasmuch as all the secondary attacks were to be guided by this one, and they all must of necessity have miscarried had the main column of advance retired.

Colonel Gillespie, induced by these considerations, therefore determined on pushing forward with the troops already up, trusting for timely support to Colonel Gibbs, with whose personal gallantry and military ardour he was well acquainted, and which he felt confident would bring him to the scene of action the instant the sound of firing should indicate the direction of the line of his advance. A deep cut across the road, close to the enemy's lines, obliged Colonel Gillespie's party to advance very slowly, so as to afford time for his men to form up after passing over the gap. The dawn of day now showed the vedettes of the enemy posted outside the redoubt, and to the left of the road. They challenged twice, and were answered by the guide. The British party then passed on. Another officers' piquet stationed close to the redoubt next challenged, whereupon Colonel Gillespie gave the command "Forward!" and so rapid was the rush onward that the enemy's piquet had not even time to effect its retreat, and every man of it was either killed or captured. Firing now became general, and both blue lights and rockets were discharged by the enemy so as to discover the direction of our approach, whilst their artillery fired both grape and round shot, but these passed for the most part overhead. Before the enemy in the nearest redoubt had time to reload, our soldiers assaulted it at the point of the bayonet, and carried it with such celerity that not a man escaped. Colonel Gillespie continued to press forward in order to secure the passage of the Slokkan, and here the bridge-head was defended by four horse artillery guns, and was flanked by all the other batteries. Here, therefore, a severe struggle took place, but the passage was at length secured. Colonel Gillespie now turned to the left, and attacked a second redoubt within the body of the enemy's works. Here another sharp conflict ensued. The handful of British soldiers by which this post was attacked were opposed by such vast numbers of the enemy as to call for the most extraordinary efforts of gallantry on the part of the assailants. This second redoubt was, however, carried at the point of the bayonet in the same determined manner as was the first, and notwithstanding, too, the tremendous fire of both grape and musketry which the enemy kept up. Several officers here lost their valuable lives at the very threshold of victory, and many gallant soldiers were either killed or wounded.

The two redoubts which had now been captured each mounted twenty 18-pounders and several 24 and 32-pounders, while the ditches

were filled with musketeers. Another large redoubt to the right of the British entrance had now to be assailed. Just at this moment Colonel Gibbs arrived at the head of the Grenadiers of H.M.'s 14th, 59th, and 69th Regiments, and Colonel Gillespie directed him to carry the third redoubt. This was done in the same gallant and successful manner as was the case with the two preceding redoubts, and it was effected under a severe fire of grape and musketry. A dreadful explosion took place in this third redoubt, caused by the blowing up of the enemy's powder magazine. This occasioned the loss of many lives. A great number of shells and rockets exploded, and a sulphurous blast of mingled ashes, smoke, and fragments of every kind broke upon us like a volcano, stunning all around. This catastrophe was followed for a minute by an awful silence. Many found a death, but few a grave! Numbers of the enemy were also destroyed, and the ground was strewn with the mangled bodies and distorted limbs of friends and foes, all mixed up together in a horrible state of fraternity. Colonel Gibbs¹ and many other British officers were thrown by the shock of the explosion to a considerable distance, but fortunately without sustaining any material injury. The enemy now renewed their fire upon our troops with increased fury from their park guns and batteries in the rear, and they maintained a specially heavy fusilade upon the little bridge across the Slokkan, over which our men had to advance.

While Colonel Gibbs proceeded to the right, Colonel Gillespie continued his operations to the left and towards the enemy's rear. All the batteries in succession were stormed and taken, and, having been joined by Lieut.-Colonel Alexander McLeod with H.M.'s 59th Regiment, Colonel Gillespie directed the attack on the enemy's artillery park and reserve. The enemy's cavalry formed up and threatened the right of the British line, but were repulsed by the well-directed fire of a party of the 59th sent against them. The same gallant corps then moved in column along the face of the redoubt, within the body of the enemy's works which Colonel Gillespie's party had already taken, and gained the salient angle of their line of reserve which was drawn up in rear of their park guns and horse artillery with a double front nearly at right angles, their rear and flanks being covered by the barracks and the Dutch fort of Cornelis. This attack was carried out with the greatest promptitude, and although the assailants were met with a shower of grape, the enemy was driven from all his guns. An attempt was then made to effect a stand in front of Fort Cornelis under shelter of the barracks, whence a sharp musketry fire was kept up; but being soon driven from this last ground and the Dutch fort itself having been carried by our troops, the enemy broke and dispersed in all directions.

Whilst these successful operations were being carried out by the force under Colonel Gillespie and Gibbs, two other attacks were made, one on the opposite side of the river at Campang Malayo by a column

¹ This gallant officer was killed at New Orleans, in December, 1814, in the attack under Sir Edward Pakenham.

under Major Yule. This officer, finding the bridge over the Slokkan in flames and almost burnt down, could only employ his two 6-pounder, horse artillery guns in shelling the enemy across the river; but this greatly harassed them in their retreat. The other attack, under Lieut.-Colonel William McLeod, of H.M.'s. 69th Foot, was made on the enemy's left and it was directed against a redoubt in that quarter, and was gallantly carried out; but unfortunately it entailed the death of the brave officer at the head of the column. The remainder of our Army, with the Commander-in-Chief at their head¹ and Major-General Weatherall, Colonel Wood, commanding the Reserve, and Colonel Adams, commanding the Left Brigade of the Line, threatened the enemy in front, where our batteries were placed and reinforced by a body of seamen armed with pikes, under Captain Sayer, R.N. The main attack having been so successfully accomplished, all the other parties rushed in from their respective points, and together went in pursuit of the flying enemy.

Colonel Gillespie,² at the head of H.M.'s 22nd Dragoons, pursued the enemy in their flight along the Great Eastern road, for a distance of ten miles. They rallied several times, but although their generals and other superior officers made every endeavour to conduct a retreat under cover of the woods, all their efforts proved unavailing. At one place they attempted to make a stand behind broken-down carts and thick hedges, supported by some guns of horse artillery; but our cavalry charged in sections through the gaps, in the face of a tremendous fire, with such impetuosity as to break down all before them.

The French superior officers and sharpshooters remained in the enemy's rear and used every means to get their people off along a wide road between two rivers. The rout was, however, rendered complete without any material loss on the part of the victors, with the exception of Lieutenant Hutchins, of the Dragoons, an excellent officer, who was killed by grape shot. Sir Samuel Auchmuty, in giving an account of the enemy's loss to Lord Minto, wrote as follows:—"About one thousand bodies have been buried in the works; multitudes were cut down in the retreat; the rivers were choked up with dead, and the huts and woods were filled with the wounded, who have since expired. We have taken nearly 5,000 prisoners, among whom are 3 General Officers, 34 Field Officers, 70 Captains, and 150 Subaltern Officers. General Janssens made his escape with difficulty during the action, and reached Buitenzorg, distant 35 miles, with a few cavalry—the sole remains of an Army of 10,000 men."

¹ The Commander-in-Chief was Sir Samuel Auchmuty. According to the information given in Cassell's *New Biographical Dictionary*, Sir Samuel Auchmuty was the son of a New York clergyman, who entered the British Army, and afterwards held the appointment of Commander-in-Chief in the Madras Presidency, and subsequently that of Commander of the Forces in Ireland. He died in 1822.

² This brave officer and intrepid leader of men, who had been promoted to the rank of Major-General, was afterwards killed during the Nepalese war of 1814, whilst leading an attack on the small fort of Kalunga in the hills, about twenty-six miles north of Hardwar on the Ganges.

"Thus," to quote the language of Lord Minto, in his despatch to the Earl of Liverpool, "the Conquest of Java was substantially accomplished, and an empire, which for two centuries has contributed greatly to the power, prosperity, and grandeur of one of the principal and most respected of the States of Europe, was wrested from the short usurpation of the French Government and added to the dominion of the British Crown,¹ and converted from a seat of hostile machination and commercial competition, into an augmentation of British power and prosperity. For this splendid, this signal and illustrious service, Great Britain is indebted to the truly British intrepidity of as brave an Army as ever did honour to our country, to the professional skill and spirit of their officers, and to the wisdom, decision, and firmness of the eminent man who directed their courage and led them to victory."

At Onarang the Dutch made another stand, but only for a few minutes, scarcely waiting to receive the fire of our artillery ere they again fled.

From Onarang, General Janssens fled to Salatiga, and as he still refused to capitulate Sir Samuel Auchmuty detached a small force against him under Colonel Gibbs. The Colonel had marched about five miles from Onarang when he was met by Brigadier-General Winkleman, the bearer of the terms of the Capitulation, which had been offered by the British Commander-in-Chief, and which General Janssens had at length most reluctantly signed. A company of European infantry with two guns upon this proceeded to Salatiga to take possession of the fort and the public stores there, and Colonel Gibbs returned to Onarang.

¹ It is sad to read in Mr. Walter Frewen Lord's interesting book entitled "The Lost Possessions of England," that the island of Java, after having been "magnificently administered for five years by Sir Stamford Raffles, was idly handed over to Holland, at the Treaty of Vienna, by a British statesman who did not even know where Java was!"

· NAVAL NOTES.

HOME.—The following are the principal appointments which have been made: Vice-Admirals—Sir C. F. Hotham, K.C.B., to be Commander-in-Chief at Sheerness; Sir E. H. Seymour to be Commander-in-Chief in China. Rear-Admiral—A. P. Lake to be Senior Officer on coast of Ireland. Captains—P. F. Tillard to "Magicienne"; G. L. Atkinson to "Algiers"; A. W. Moore, C.B., C.M.G., to be Superintendent Sheerness Dockyard. Commanders—A. Meldrum to "Raven"; A. C. Woods to "President"; H. Sayle to "Alert"; A. L. Duff to "Bat"; I. de Robeck to "Haughty"; C. G. Treherne to "Lightning."

The third-class cruiser "Tartar" arrived from Halifax on the 8th ult., and will pay off at Sheerness. The new screw sloop "Alert" commissioned at Sheerness on the 25th ult., and will relieve the "Buzzard" on the West Indian and North American station.

The first-class cruiser "Royal Arthur," bearing the flag of Rear-Admiral H. L. Pearson, left Portsmouth on the 18th ult. for Australia; on her three hours' commissioning trial under natural draught, with the engines developing 9,700-I.H.P., and making 96·9 revolutions starboard, and 95·6 revolutions port, the mean speed was $18\frac{1}{2}$ knots; the draught of water was 24 feet 9 inches forward, and 26 feet 1 inch aft; the pressure of steam in the boilers was 134 lbs., while the mean air pressure was 0·53 inch. The new second-class cruiser "Venus" commissioned at Chatham on the 9th ult., and left for the Mediterranean on the 2nd inst. to relieve the "Cambrian"; before leaving she carried out two trials, which consisted of a three hours' run at full power, and a thirty hours' run at one-fifth power; at the three hours' trial, with 8,200-I.H.P., the ship gave a speed of 19·6 knots by patent log, but the coal consumption on this part of the trial was not taken; at the second stage of the trial, with 1,920-I.H.P., the speed was 13 knots, and the coal consumption was 2·1 lbs. per unit of power per hour for the main engines and 0·4 lb. for the auxiliary engines. As the "Venus" is supplied with ordinary cylindrical boilers, the trial was specially ordered so as to compare her results with those of the "Arrogant," which is supplied with the Belleville boilers, and which, with the same speed, gave a coal consumption of 2 lbs. for the main engines and 0·8 lb. for the auxiliaries, thus showing that in the main engines the economy is the same, but that the expense is greater in the case of higher pressure.

The new second-class cruiser "Doris" commissioned at Devonport on the 18th ult. to relieve the "St. George" as flag-ship on the Cape station, and the third-class cruiser "Magicienne," also commissioned the same day at the same port to relieve a sister-ship, the "Philomel," on the same station. On her three hours' commissioning trial the "Doris" maintained a speed of 17·6 knots, the mean results being:—Steam in boilers, 150 lbs.; ditto at engines, 149 lbs.; vacuum, starboard 28·5 inches, port 27·3 inches; revolutions, starboard 136·8, port 135·9; mean pressure in cylinders, high 55·7 and 53·8 lbs., intermediate 23·5 and 26·1, low 13·1 and 13·3; I.H.P., high 1,283 and 1,233, intermediate 1,193 and 1,318, low 1,521 and 1,537 in the starboard and port engines respectively; the total I.H.P. was 8,085, and the draught of water 19 feet 9 inches forward and

23 feet 3 inches aft. The "Magicienne," during her three hours natural-draught trial in the Channel, attained an average speed of 16 knots per hour; the mean results were:—Steam in boilers, 136 lbs., ditto at engines, 132 lbs.; vacuum, starboard 22 inches, port 23·2 inches; revolutions, starboard 122·3, port 122·4; the total I.H.P. of 5,774 was made up as follows:—High 1,017 and 780 in starboard and port engines respectively, intermediate 943 and 815, low 1,133 and 1,086. The "Doris" and "Magicienne" left Plymouth on the 29th ult. for their destination.

The second-class cruiser "Sirius" left Plymouth on the 19th ult. *en route* to Malta with relief crews for the "Fearless" and "Hebe"; the mean results of her three hours' commissioning trial were:—Steam in boilers, 146 lbs.; air pressure in stokeholds, 0·37 inch; vacuum, starboard 26·6 inches, port 27·1 inches; revolutions, starboard 126·1, port 126·2; I.H.P., starboard 3,427, port 3,476—total, 6,903; speed, 16·8 knots.

The new first-class battle-ship "Hannibal" has been undergoing her trials at Portsmouth; during her thirty hours' coal consumption trial the draught of water forward was 25 feet, and aft 25 feet 8 inches; the vacuum was 28 inches, and the revolutions 84 per minute. The vessel was required to maintain a mean I.H.P. of 6,000, but the mean of the thirty hours was 6,124, which gave the ship a speed of 14·6 knots. The coal consumption worked out at 1·78 lbs. per unit of power per hour. During the eight hours' natural-draught trial, the draught of water forward was 24 feet 9 inches, and aft 25 feet 9 inches; she had 150 lbs. of steam to the square inch in the boilers, the mean air pressure being 0·26 inch, and the vacuum was 27 inches. The collective I.H.P. with 97 revolutions was 10,357, and the speed by patent log 16·3 knots. The coal consumed was 1·97 lbs. per unit of power per hour.

The new first-class battle-ship "Illustrious" has also commenced her trials in the North Sea; the mean results of the thirty hours' coal consumption trial are as follows:—Draught of water, forward, 25 feet 7 inches; aft, 26 feet 6 inches; speed, 14·51 knots; steam pressure in boiler, 142 lbs. per square inch; revolutions, 83·1 starboard, 83·0 port; I.H.P., 3,101 starboard, 3,054 port—total, 6,155; coal consumption, 1·77 lbs. per I.H.P. After she had started for her eight hours' natural-draught trial, and while the engines were being worked up for the trials, the induced draught fans broke down, causing such damage as to necessitate the postponement of the trials.

The "Crane," the fifth of the 30-knot torpedo-boat destroyers delivered by Messrs. Palmer, of Jarrow-on-Tyne, has carried out her official trials at Portsmouth with satisfactory results. The weather was hazy and the sea smooth, but the wind, when the "Crane" was steaming against it, was strong. During the last hour the engines were worked up to more than 400 revolutions a minute, but the mean of the three hours was 395·5, giving a speed of 30·138 knots. The mean of six runs on the measured mile gave a speed of 29·62 knots, but the highest speed past the mile was 32·75 knots. While the vessel was running on the mile the air pressure was 2·9 inches and the vacuum 25·2 inches. The principal condition of the trial was that she was to make 30 knots with a coal consumption of 2·5 lbs. per unit of power per hour; but though the consumption was not worked out it is believed to have been economical. Though only required to develop 6,000-I.H.P., the vessel maintained a mean of 6,428, the engines working smoothly, while there was an entire absence of vibration. She carried out her second three hours' speed trial, at which she was required to maintain a mean of 6,000-I.H.P. and a speed of 30 knots, equally successfully. The mean I.H.P. of the three hours was, however, 6,267, and the speed 30·347 knots. The revolutions were 397·4. During the six runs on the measured mile the I.H.P. gave a mean of 6,480, the speed being 30·724 knots, and the revolutions 404½. The mean air pressure for the entire run was 3 inches. At the first three hours' trial the coal consumption,

which was required to not exceed $2\frac{1}{2}$ lbs. per unit of power per hour, has been ascertained to have been $2\frac{3}{4}$ lbs.

The new third-class cruiser "Pomone" was launched at Sheerness on the 25th ult. She was commenced on December 21st last year, and has thus been eleven months in course of construction. Her principal dimensions are:—Length, 300 feet; beam, 36 feet 6 inches; draught of water, forward, 12 feet; aft, 15 feet; displacement in tons, 2,135. Unlike her sister-cruiser the "Proserpine," whose machinery was made at Keyham by Government workmen, the engines and boilers of the "Pomone" will be supplied and fitted by private contract, which has been given to Messrs. John Penn and Sons. The engines are to be of the same power as her sister-cruisers, viz., 7,000 with forced draught, and 5,000 with natural draught, her speed being estimated at 20 knots and $18\frac{1}{2}$ knots per hour respectively. Her armament is to consist of eight 4-inch Q.F. guns—two on the poop, two on the forecastle, and four at the broadside; eight 3-pounder Hotchkiss Q.F. guns, and two 45-inch Maxim guns. She will also be supplied with two 14-inch torpedo-tubes. In every respect the "Pomone" will be fitted in a similar manner to her sister-cruisers "Pelorous" and "Proserpine," and she will be completed for active service by December, 1898.

During the past two or three years several serious accidents have occurred at target practice or when saluting with Q.F. guns. Although an exhaustive inquiry has been held on each occasion, the experts have failed to discover the exact cause of the accident, and they have in consequence attributed it to "premature explosion." It has now been discovered, however, that when the breech mechanism of the 6-inch Q.F. guns is slightly worn the small fitting known as the "safety stop" fails to act as such, the result being that the powder charge may be fired before the breech is actually closed. That accidents have thus been caused there is little doubt, and the Admiralty have arranged for the immediate examination of the safety stops on all guns in the Service. A method of remedying the defect has been approved, and will be at once applied where necessary. As an extra precaution the Admiralty have directed that it is to be a recognised part of the duty of one member of each gun's crew to see that the safety stop is working correctly when the breech is open and before the firing tube is inserted. As it is possible that a similar defect may be found to exist in the single motion breech mechanisms of other types of Q.F. guns, they are all to be occasionally tested to ascertain that the safety stop works correctly.

During the past month an addition has been made to the Royal Navy which claims some attention. The "Woodcock," one of the new sectional river gun-boats completed for British service, has lately completed her trials successfully; three boats of similar construction are now on the Nile under the Egyptian flag, and two smaller ones, the "Heron" and "Jackdaw," have been sent out in sections to Forcados, and are now being put together at that port for service on the Niger. The "Woodcock" is 145 feet long, 24 feet beam, and, when loaded with 30 tons of dead weight, displaces 126 tons, and draws 2 feet of water. Under favourable circumstances she steams about 13 knots. Messrs. Thornycroft have found it necessary to employ four propellers on her two shafts; the forward propeller on either shaft has flexible arms which only become rigid under stern way. The propellers are partially immersed when the vessel is at rest, but they are covered with a cylindrical drum, forming a tunnel, water-tight as regards the vessel, which collects sufficient water to completely immerse the propellers when in motion. Thin hardened steel is employed throughout, and this is practically bullet-proof at 20 yards distance. Each section is about 15 feet long, by the breadth of the vessel, and no section weighs more than 5 tons. The armament is two 6-pounder Q.F. guns, and six Maxims carrying 303 bullets. The cylinder engines for each shaft are separated one from the other by longitudinal steel bulkheads, the boilers are on Thornycroft's water-tube system, and the furnaces are constructed to burn either coal or wood.

NAVAL EXPENDITURE AND MERCANTILE MARINE.

The following Return showing Aggregate Naval Expenditure on Seagoing Force; Aggregate Revenue; Aggregate Tonnage of Mercantile Marine; Annual Clearances of Shipping in the Foreign Trade; Annual Clearances of Shipping in the Coasting Trade; Annual Value of Imports by Sea, including Bullion and Specie and Transhipment Trade; and Annual Value of Exports by Sea, including Bullion and Specie and Transhipment Trade, of various Countries, including British Self-governing Colonies, for the year 1896, has just been issued as a Parliamentary Paper. Where it has not been possible to give the particulars for 1896 the figures for the latest year available have been shown :—

Countries	Aggregate Naval Expenditure on Seagoing Force	Aggregate Revenue	Aggregate Tonnage of Mercantile Marine	Annual Clearances of Shipping in the Foreign Trade	Annual Clearances of Shipping in the Coasting Trade	Annual Value of Imports by Sea including Bullion and Specie and Transhipment Trade	Annual Value of Exports by Sea, including Bullion and Specie and Transhipment Trade
	£	£	Tons.	Tons.	Tons.	£	£
BRITISH EMPIRE							
United Kingdom	21,264,377 ^a (1895-96)	101,974,000 (Year ended 31st March, 1896)	9,020,282 ⁺ (1896)	42,984,963 (1896)	48,610,692 [*] (1896)	480,607,000 (1896)	341,551,000 (1896)
India	312,844 ^b (1895-96)	55,907,045 ^d (Year ended 31st March, 1896)	46,735 ^(c) (1896)	4,098,561 ^(a) (Year ended 31st March, 1896)	13,356,084 ^(a) (Year ended 31st March, 1896)	49,049,860 (Year ended 31st March, 1896)	67,401,235 (Year ended 31st March, 1896)
SELF-GOVERNING COLONIES §							
Australian :							
New South Wales	47,026 (1895-96)	9,237,585 (Year ended 30th June, 1896)	112,634 (1896)	2,930,280 (1895)	No Returns	14,209,047 ⁺⁺ (1895)	17,186,636 ⁺⁺ (1895)
Victoria	70,499 (1895-96)	6,096,264 (Year ended 30th June, 1895)	95,760 (1896)	2,167,147 (1895)	Cannot be given	11,526,530|| (1895)	15,323,031|| (1895)
South Australia (except Northern Territory)	16,656 (1895-96)	2,455,510 (1895)	51,580 (1896)	1,498,203 (1895)	No Returns	3,916,840 (1895)	6,558,339 (1895)
Northern Territory		63,959 (Year ended 30th June, 1895)	132 (1896)	85,515 (1895)	No Returns	95,279 (1895)	175,704 (1895)
Western Australia	2,490 (1895-96)	1,125,941 (Year ended 30th June, 1895)	8,113 (1896)	764,185 (1896)	No Returns	3,774,951 (1895)	1,332,554 (1895)
Tasmania	4,776 (1895-96)	761,971 (1895)	16,535 (1896)	472,546 (1895)	No Returns	1,094,457 (1895)	1,373,063 (1895)
New Zealand	20,813 (1895-96)	4,410,615 (Year ended 31st March, 1896)	76,556 (1896)	648,946 (1895)	4,858,976 (1895)	6,400,129 (1895)	8,550,224 (1895)
Queensland	20,101 (1895-96)	3,413,172 (Year ended 30th June, 1895)	22,970 (1896)	502,195 (1895)	2,940,558 ^{**} (1895)	4,832,827 (1895)	8,285,808 (1895)
Africa—							
Natal	—	1,169,780 (Year ended 30th June, 1895)	2,725 (1896)	1,063,797 (1896)	No Returns	2,466,415|| (Year ended 30th June, 1895)	1,305,184 ^{***} (Year ended 30th June, 1895)
Cape of Good Hope	—	6,690,423 (Year ended 30th June, 1896)	1,963 (1896)	2,437,479 (1896)	3,575,138 (1896)	18,682,456 ^{**} (1896)	16,970,168 ^{**} (1896)
American—							
Dominion of Canada	—	7,524,368 (Year ended 30th June, 1896)	765,344|| (1896)	5,563,484 [*] (Year ended 30th June, 1896)	13,381,837 [*] (Year ended 30th June, 1896)	22,723,455 ⁺⁺⁺ (Year ended 30th June, 1896)	24,865,800 ⁺⁺⁺ (Year ended 30th June, 1896)
Newfoundland	—	825,721 (1895)	104,189 (1896)	407,100 (1894)	No Returns	1,250,861 (1895)	1,295,831 (1895)

REMARKS.

* Exclusive of the tonnage of vessels that cleared in ballast from London.

(^a) Of this total £20,543,278 was ordinary expenditure, and £721,099 was expenditure under the Naval Works Act, 1895 (outside Navy Votes).

(^b) Expenditure in India converted into sterling at the official rate for the year of 1s. 1½d. the rupee.

(^c) Includes a contribution of £117,000 for Her Majesty's ships in Indian

waters, and £59,600 for Her Majesty's ships and vessels for the naval defence of India. The balance represents expenditure on the Royal Indian Marine. The question as regards the contribution on account of Her Majesty's ships in Indian waters is now settled, and the payment on account of this service will be £100,000 annually until 1900-1.

(*d) Converted at the rate of 1s. 1'64d. to the rupee. The Revenue stated for the year ended March 31st, 1896, is apparently smaller than that for the year ended March 31st, 1894. This is not, however, practically the case, the difference arising from the rate of conversion, which, in the year 1894, was taken at the rate of 1s. 4d., and in the year 1896 at 1s. 1'64d. to the rupee.

(*e) In addition to the vessels registered under the Imperial Act of 1894. India owns some vessels of small tonnage registered under the Indian Act X. of 1841. Exclusive of the tonnage of vessels below 100 tons.

† Including the Isle of Man and Channel Islands.

‡ Includes contribution towards the maintenance of Her Majesty's vessels, for protection of floating trade in Australasian waters, as follows, 1895-6 :—

New South Wales	... ..	£37,961	New Zealand	... ..	£20,813
Victoria	... ..	36,406	Queensland	... ..	13,503
South Australia	... ..	10,690			
Western Australia	... ..	2,490	Total	... ..	£126,639
Tasmania	... ..	4,776			

The annual contribution is £126,000, payable in advance. It was apportioned amongst the various colonies on a population basis for the year commencing March 1st, 1897, as follows :—

New South Wales	... ..	£37,820	New Zealand	... ..	£20,814
Victoria	... ..	34,243	Queensland	... ..	13,762
South Australia	... ..	10,499			
Western Australia	... ..	4,021	Total	... ..	£126,000
Tasmania	... ..	4,841			

§ As regards the revenues of these colonies, it should be observed that they are exclusive of loans raised.

|| Including vessels registered under the 41 C. of the Consolidated Statutes of Canada for Inland Navigation only.

(|| a) Including native craft.

¶ Exclusive of the tonnage of vessels (5,088,389 tons) trading on the rivers and lakes between Canada and the United States.

** Inclusive of the tonnage of vessels (2,321,492 tons) engaged in coasting voyages terminating beyond the colony.

†† As a rule there are no separate returns of the transshipment trade in the British colonies, but, wherever possible, the value of such trade has been included in the figures given.

‡‡ Exclusive of transshipments, the value of which is not known.

§§ Including transshipments, valued at £1,249,360. The returns of transshipment are incomplete.

||| Including the value of goods imported in transit for the interior.

¶¶ Including the value of goods entered for removal to places outside the Customs Union.

*** Including the value of gold, the produce of South African States, brought into the colony overland, and exported by sea.

††† Total imports for home consumption. Imports by sea are not separately shown in the Canadian returns.

‡‡‡ Total exports. Exports by sea are not separately shown in the Canadian returns.

NOTE.—The above particulars, with the exception of those for naval expenditure, which have been furnished by the Admiralty, have been extracted either from Board of Trade returns or from the official returns of the various colonies in the possession of the Board of Trade.

Countries	Aggregate Naval Expenditure on Sea-going Force	Aggregate Revenue	Aggregate Tonnage of Mercantile Marine	Annual Clearances of Shipping in the Foreign Trade	Annual Clearances of Shipping in the Coasting Trade	Annual Value of Imports by Sea, including Bullion and Specie and Transhipment Trade	Annual Value of Exports by Sea, including Bullion and Specie and Transhipment Trade
	£	£	Tons.	Tons.	Tons.	£	£
France ...	10,877,279 (1896)	133,333,000 (1894)	857,073 (1895)	14,130,294 (1896)	6,648,304 (1895)	139,232,000 (d) (1896)	125,472,000 (d) (1896)
Russian Empire	5,835,052 (1896)	139,743,000 (1895)	—	9,789,044 (1894)	12,091,194 (1894)	28,900,000 (d) (t) (x) (1894)	43,993,000 (d) (t) (x) (1894)
Germany ...	4,372,068 (1896)	82,394,000 (a) (1896-97)	1,502,044 (1895)	12,031,937 (1895)	3,250,690 (1896)	221,650,000 (b) (d) (1895)	183,115,000 (b) (d) (1895)
Italy ...	4,129,964 (1896)	71,804,000 (1896)	776,077 (1895)	8,614,283 (1896)	18,068,669 (cl) (1896)	33,418,000 (c) (1895)	21,023,000 (c) (1895)
Spain ...	937,742 (1896)	30,951,000 (a) (v) (1896-97)	719,572 (1895)	12,920,316 (1894)	11,605,537 (1895)	26,368,000 (1894)	27,956,000 (1895)
Austria-Hung'y	1,122,369 (1896)	{ 53,710,000 (a) (1895) Hungary. 44,259,000 (1895)	200,080 (1894)	9,151,071 (e) (1894)	See note (e)	12,473,000 (t) (1895)	8,083,000 (t) (1895)
Netherlands ...	1,313,169 (1896)	9,980,000 (a) (1896)	290,657 (1895)	6,753,218 (1895)	—	To us. 7,495,000 (s) (1895)	Tons. 1,839,000 (s) (1895)
Portugal ...	649,944 (1896)	11,182,000 (a) (Year ended 30th June, 1897)	—	5,979,594 (1894)	1,263,916 (q) (1894)	11,466,000 (b) (d) (f) (1895)	8,563,000 (b) (d) (f) (1895)
United States (year ended June 30th) ...	6,180,132 (1896)	85,307,000 (a) (I) (1896)	844,954 (g) (1896)	17,918,790 (h) (1896)	—	161,200,000 (d) (1896)	171,141,000 (d) (1896)
China ...	Cannot be given	—	49,307 (k) (1895)	4,711,252 (1896)	12,055,441 (l) (1896)	35,271,000 (d) (1896)	23,352,000 (d) (m) (1896)
Japan ...	5,945,919 (1896)	9,508,000 (a) (aII) (1895-96)	254,682 (n) (1895)	2,419,181 (1895)	—	14,619,000 (d) (1895)	14,356,000 (d) (1895)
Chile ...	Cannot be given	4,424,000 (w) (1894)	—	3,028,847 (1895)	6,658,584 (1895)	16,445,000 (d) (1895)	15,884,000 (c) (d) (p) (1895)
Brazil ...	1,053,486 (1896)	39,89,000 (a) (v) (1896)	—	—	—	—	—
Argentine Republic ...	822,435 (y) (1896)	7,641,000 (1895)	86,090 (1893)	7,014,352 (1895)	—	19,006,000 (c) (r) (t) (1895)	23,284,000 (c) (r) (t) (1895)

NOTE.—With regard to the revenue of foreign countries, in converting the foreign currencies into £'s sterling the par value of the foreign money has been taken, except in the case of Japan [see (A I)], and in that of Chile [see note (w)]; as also in that of Argentine, where the paper pesos have been converted into their equivalent in gold.

The particulars given for the imports and exports of foreign countries by sea are usually exclusive of transhipment trade.

(a) Budget Estimates.

(a I) Exclusive of receipts from loans and Treasury notes.

(a II) Calculated on the value of the yen in 1895.

(b) Total trade. Imports and exports by sea are not separately distinguished in the respective trade volumes.

(c) Including silver bullion only.

(c I) "Navigazione di Cabotaggio e di Scalo."

(d) Excluding bullion and specie.

(e) Including coasting trade, exclusive of Hungary.

(f) These figures are stated to be provisional only, and subject to rectification.

(g) Registered for over-sea (*i.e.*, foreign) trade only.

(h) Exclusive of the vessels engaged in the lake trade between the United States and Canada, the tonnage of which amounted to 3,595,795 tons.

(k) Vessels of foreign (*i.e.*, non-Chinese) type only, belonging to Chinese owners and sailing under the Chinese flag.

(l) Coasting trade between the treaty ports of China.

(m) Including tea carried overland from Tientsin to Russia, via Kiakhta.

(n) Vessels of foreign type only, excluding junks.

(p) Total exports. Exports by sea are not separately distinguished in the Chilean trade volume.

(q) Portuguese vessels only.

(r) By sea and river.

(s) Metric tons of 2,204 lbs. The particulars as to value of trade by sea are not available from the Dutch trade volumes.

(t) Special trade, i.e., imports for home consumption or exports of domestic produce and manufacture, as the case may be.

(v) From the "Almanach de Gotha" for 1897.

(w) From the "Almanach de Gotha" for 1894 and 1895, the figures being 59,903,422 paper pesos (at 1s.) and £1,426,335 sterling.

(x) Trade by European frontier and with Finland.

(y) This sum is stated to be not sufficiently authenticated.

NOTE.—The above particulars, with the exception of those for naval expenditure, which have been furnished by the Admiralty, have been extracted either from the Board of Trade returns or from the official returns of the various countries in the possession of the Board of Trade, except in the cases mentioned—see notes (v) and (w).

CHINA.—The first-class protected cruiser "Hai Tien," built to the order of the Chinese Government, was launched on the 25th ult., from the Elswick shipyard of Sir W. G. Armstrong, Whitworth, and Co. The principal dimensions of the vessel are as follows:—Length, 396 feet; beam, 46 feet 8 inches; mean draught, 16 feet 9 inches; displacement, in tons, 4,300. Her armament will consist of two 8-inch Elswick Q.F. guns, ten 4·7-inch Elswick Q.F. guns, twelve 3-pounder Elswick Q.F. guns, four 37-millimetre Maxims, six rifle calibre Maxims, and five 18-inch torpedo-tubes. The vessel will have a strong steel protective deck, extending right forward and aft, so as to protect completely the machinery, magazines, and steering gear, the deck varying in thickness from 1½ inches on the flat to 5 inches on the slopes. The conning tower will be built of armour 6 inches thick, so as to afford efficient protection to the steering wheels, etc., when the vessel is going into action. The total coal capacity is about 1,000 tons, and the speed guaranteed on trial is 24 knots during a trial of four hours' duration.

FRANCE.—The following are the principal appointments which have been made: Capitaines de Vaisseau—J. C. Blouet to "Foudre"; Capitaines de Frégate—De Geis de Guyon de Pampelonne to "Galilée"; J. C. L. Gaschard to "Lévrier."—*Le Moniteur de la Flotte*.

The two new second-class cruisers "Du Chayla" and "Cassard" are continuing their trials at Cherbourg; at a full-power trial of the first named, the engines developed 10,095-I.H.P., with 147 revolutions, which gave a mean speed of 20·2 knots, the coal consumption being 917 grammes per I.H.P. per hour; on a coal consumption trial under natural draught the engines developed 7,766-I.H.P., giving a speed of 18 knots, with a coal consumption of 750 grammes per I.H.P. per hour; on the 24 hours' trial under natural draught, with twenty furnaces alight, the engines developed 6,100-I.H.P., with 120 revolutions, giving a mean speed of 17·5 knots, the coal consumption being 728 grammes per I.H.P. per hour. The new second-class cruiser "Catinat" has arrived at Cherbourg from Havre for her trials.

On the 18th ult., a collision occurred between the torpilleur-de-haute-mer "Doudart de Lagrée" and another torpedo-boat, No. "133," when exercising in the Gulf of Algiers not far from Cape Matifou, which resulted in the sinking of the

latter in about 40 fathoms of water, the officer in command, the pilot, and a seaman being seriously injured. The "Doudart de Legrée" was considerably damaged, although not so badly that it could not return safely to port with the crew of No. "133" on board. These torpedo-boats with two others were engaged in manœuvring with masked lights, and the night was extremely dark. The position of the four torpedo-boats formed a kind of diamond; No. "133" being in front, the "Doudart de Legrée" on the right in line with another of the boats about 200 yards astern, and the remaining boat bringing up the rear. The night was so dark that the commander of the "Dague," the stern-most boat, never saw the collision at all. According to present accounts it appears that all at once No. "133" gave a siren signal that she was going to turn to starboard, and the "Doudart de Legrée," not hearing the signal, kept on her course and ran into the other boat. A court of enquiry has been held into the cause of the collision.

On the 17th ult. the Minister of Marine signed the contract with the "Forges et Chantiers de la Seyne" for the construction of the new first-class armoured cruiser "Montcalm." Her dimensions will be as follows:—Length, 448 feet 6 inches; beam, 63 feet; with a displacement of 9,515 tons. The engines of the usual triple-expansion type, driving three screws, are to develop a grand total of 19,600-I.H.P., under forced draught, to give a speed of 21 knots; steam will be provided by twenty sets of the Normand-Sigaudy water-tube boilers, provided with an installation for using coal mixed with petroleum. The coal stowage will be 1,020 tons, with a radius of action at 10 knots of 6,500 miles, and at full speed of 1,230 miles. There is to be a 6-inch water-line belt of hardened steel and two armoured decks. The armament will consist of two 19·4-centimetre (7·6-inch) guns, in 6-inch turrets, one forward and one aft; eight 16-centimetre (6·3-inch) Q.F. guns in armoured casemates, so arranged that four can fire ahead and four astern; four 10-centimetre (3·9-inch) Q.F. guns, protected by shields on the upper deck; sixteen 3-pounder and six 1-pounder Q.F. guns will be distributed between the fighting tops and along the upper deck; the turrets and ammunition hoists will be worked by electricity and there will be two under-water torpedo-tubes. The ship has been designed by M. Bertin, the Director of Naval Construction.

The new torpedo-boats Nos. "196" and "204" have been attached, the former to the *Mobile-Défense* of Lorient, and the latter to that of Brest. Nos. "191," "132," "135," "140," and "141" have replaced Nos. "62," "68," "93," "95," and "103" of the *Mobile-Défense* of Toulon, the latter having been placed in reserve.

The second-class cruiser "Chasseloup-Laubat" has returned to Cherbourg to have bilge-keels fitted, and as soon as this has been done her sister-ship, the "Friant," which has already been furnished with bilge-keels, will proceed to Cherbourg for comparative trials with the "Chasseloup-Laubat." It will be remembered that comparative trials, one without and the other fitted with bilge-keels, have already taken place between these two vessels.

The armoured cruiser "Victorieuse," in reserve at Brest, has been appropriated as a barracks for the *Mobile-Défense* of that port.

The "Amiral-Pothuau," which forms the frontispiece, is one of a type of armoured cruiser, which finds much favour at present with French naval authorities. Her dimensions are as follows:—Length, 370 feet 6 inches; beam, 50 feet 2 inches; displacement, 5,365 tons, with a mean draught of 21 feet. Her engines develop 10,000-I.H.P., giving a speed of 19 knots. Protection is afforded by a water-line steel belt 3·5 inches thick, tapering at bow and stern to 2 inches. Her armament consists of two 7·4-inch guns, one forward and one aft, in turrets protected by 9·5-inch armour; ten 5·5-inch Q.F. guns in casemates

protected by 2.5-inch armour; and twenty-four small Q.F. and machine guns, with five torpedo-tubes. Like all the ships of that class, her weak point is her smaller coal stowage, her normal supply being 538 tons. She carried the flag of Rear-Admiral the Marquis de Courthille at the Spithead Jubilee Review.

The following is the amended ship-building programme for the current year, which has been finally taken in hand:—At Brest—The first-class battle-ship "Jéna" (ex-"A 3"), of 12,052 tons. At Toulon—The first-class armoured cruiser "Dupetit-Thouars" (ex-"C 3"), of 9,517 tons, and two first-class torpedo-boats ex-"P 33" and ex-"P 34." At Lorient—The first-class armoured cruiser "Amiral-Gueydon" (ex-"C 5"), of 9,517 tons, and the first-class gun-boat "Décidée" (ex-"T 4"), of 644 tons. At Rochefort—A first-class cruiser "D 3," of 5,000 tons, to be put in hand at end of the year. At Cherbourg—Two first-class torpedo-boats, ex-"P 31" and ex-"P 32." To be constructed by contract—By the Société de la Méditerranée, La Seyne, Toulon—The armoured first-class cruiser "Montcalm" (ex-"C 6"), of 9,517 tons. By M. Normand, Havre—Cherbourg—The torpedo-boat destroyers "Hallebarde" (ex-"M 1"), "Fauconneau" (ex-"M 2"), and "Espingole" (ex-"M 3"), all of 303 tons; the first-class torpedo-boats ex-"P 35," ex-"P 36," ex-"P 37," and ex-"P 38." By the Société de la Méditerranée, Havre—Cherbourg—The torpedo-boat destroyers "Pique" (ex-"M 4"), "Épée" (ex-"M 5"), of 319 tons, and the first-class torpedo-boats ex-"P 46," ex-"P 47," and ex-"P 48." By the Société de la Gironde, Bordeaux—Rochefort—The first-class torpedo-boats ex-"P 49," ex-"P 50," and ex-"P 51." By Le Creusot, Châlons-sur-Saône, Toulon—The first-class torpedo-boats ex-"P 52," ex-"P 53," ex-"P 54," ex-"P 39," ex-"P 40," ex-"P 41," ex-"P 42," and ex-"P 43." By the Société de la Loire, Nantes—Lorient—The torpedo-boat destroyers "Framée" (ex-"M 6") and "Yatagan" (ex-"M 7"), of 319 tons, and the first-class torpedo-boats ex-"P 44" and ex-"P 45."

The following is the building programme as at present settled for 1898:—At Brest—A first-class battle-ship "A 9." At Cherbourg—A first-class armoured cruiser "C 4." At Lorient—A first-class armoured cruiser "C 7." To be built by contract—One first-class armoured cruiser "C 8," of 9,517 tons, to be a sister-ship to the "Montcalm"; two first-class armoured cruisers ex-"D 4" and ex-"D 5," of 7,700 tons, to be called the "Desaix" and "Kléber"; five torpilleurs-de-haute-mer and six first-class torpedo-boats.

The total number of new vessels completing, building, and to be laid down, is 84, divided as follows:—

- 8 first-class battle-ships.
- 10 first-class armoured cruisers.
- 4 first-class station cruisers.
- 3 second-class cruisers.
- 3 third-class cruisers.
- 1 first-class aviso.
- 10 torpedo-boat destroyers.
- 6 sea-going torpedo-boats.
- 36 first-class torpedo-boats.
- 1 submarine torpedo-boat.
- 1 gun-boat.
- 1 gun-boat launch.

Of these numbers, 64 are actually under construction in Government and private yards, leaving 20 to be commenced before the end of 1898.

The new battle-ship to be built at Brest is to have a displacement of 12,000 tons, but her plans are not yet completed. It is intended to lay down the "Kléber" and "Desaix" before the end of this year, if possible, but the contracts have not yet been signed; their dimensions will be as follows:—Displacement,

7,700 tons; length, 422 feet 6 inches; beam, 58 feet; engines and boilers of the same system as "Montcalm" class; H.P., 17,100; speed, 21 knots; coal stowage, 5,200 tons; radius of action at 10 knots, 8,800 miles; radius of action at full speed, 1,650 miles; armament, ten 16·4-centimetre (6·3-inch), ten 3-pounder and six 1-pounder Q.F. guns with two above-water torpedo-discharges. The station cruiser to be built at Rochefort will have a displacement of about 5,000 tons, but the plans are not yet completed.

The destroyer "Yatagan" will be similar to the "Pique," "Épée," and "Framée," namely:—Displacement, 303 tons; H.P., 4,800; speed, 26 knots; armament, one 65-millimetre and six 47-millimetre Q.F. guns. Two above-water torpedo-tubes. The designs for the five sea-going torpedo-boats are not yet completed, but they will have a displacement of about 150 tons. The six first-class torpedo-boats will have a displacement of 84 tons and a speed of 23 knots. Armament, two 37-millimetre guns and two torpedo-tubes.

The plans of the new battle-ships and cruisers are all due to M. Bertin, head of the "Section Technique des Constructions Navales," who will be held responsible. This is a new departure as up to the present no definite responsibility for the ship designs was attached to any single official.

The Estimates for the current year were originally fixed at 258,167,213 francs, but in August, on the demand of the Minister of Marine, a further grant of 7,105,750 francs was made, with a view of pushing on the ships already under construction and laying down two new additional armoured cruisers, thus raising the Estimates, as finally amended, to 265,273,023 francs. The Estimates for 1898, as finally approved, amount to 285,534,427 francs, showing an increase of 20,261,404 francs over those of the present year. It is proposed to spend a sum of 721,815,572 francs in new constructions, to be spread over eight years. This sum to be distributed as follows:—

Year.	Francs.
1898	102,186,294
1899	111,494,942
1900	112,991,578
1901	119,617,019
1902	114,948,895
1903	90,383,085
1904	53,014,931
1905	14,105,552
Total	721,815,572
A yearly mean of	90,227,196

It is noteworthy that this is the first time for many years that the French Parliament has not materially reduced the Estimates presented to it by the Government; and not only so, but in some cases more money has been voted than the Minister of Marine asked for. Here are some of the items:—The vote demanded for the *personnel* of the fleet (exclusive of officers), was 32,079,500 francs; the amount granted is 32,245,200 francs; the vote demanded for the Marine troops was 12,968,400 francs; the amount granted is 13,082,029 francs; the vote demanded for hydraulic and other works was 5,038,600 francs; amount granted 5,874,800 francs. The Minister of Marine had proposed to lay down two first-class battle-ships, but the Chamber decided to substitute two armoured cruisers for one of the battle-ships.

Considerable sums are also to be expended on various harbours and coaling stations; among others at Bizerta, a complete arsenal, with two dry docks and a breakwater, is to be built. The works will cost from twelve to fourteen million francs, of which the Regency would contribute two millions, and the Minister for War is also to expend about five millions at Bizerta. Tenders had been invited

for the arsenal, and an offer for the construction of the railway from Tunis to Bizerta, which is to convey the heavy working plant, had been accepted. In Corsica the naval authorities propose to construct a boom in a part of Ajaccio, and the military authorities are to erect two batteries to defend the boom, which is principally intended to shelter torpedo-vessels, at a cost of 200,000 francs. In addition, the Minister of War will order the construction of another battery with four guns to protect ironclads at anchor. The roads would be deepened and the heights on shore would be fortified. For the works in contemplation at Dakar a sum of 200,000 francs was asked.—*Le Temps, Le Yacht, and Annexe No. 4, Budget Général de l'Exercice, 1898 (Ministère de la Marine).*

GERMANY.—The following are the principal promotions and appointments: Rear-Admiral—Von Diederichs to be Vice-Admiral and Commander-in-Chief of the Cruiser Squadron. Rear-Admiral—H.R.H. Prince Henry of Prussia to Command of the Second Division of the Cruiser Squadron. Kapitän zur See—Sack to be Rear-Admiral: Freiherr von Bodenhausen to be Inspector of the First Marine Inspection. Korvetten-Kapitän—Plachte to "Deutschland"; Jacobsen to "Geier".—*Marine Verordnungsblatt.*

The Government has determined to materially strengthen the squadron under the command of Rear-Admiral von Diederichs in China, which has up to the present been known as the Cruiser Division. The Rear-Admiral has been promoted to Vice rank, and a Second Division, to the command of which Rear-Admiral H.R.H. Prince Henry of Prussia has been nominated, has been formed, and is to leave Kiel about the 15th to join Vice-Admiral Diederich's flag in North China. The squadron thus constituted is to be known as the Cruiser Squadron, and is composed as follows:—

First Division—

First-class armoured cruiser—"Kaiser" (flag-ship of Vice-Admiral Commanding).

Second-class cruisers—"Irene," "Prinzess Wilhelm."

Fourth-class cruiser—"Arcona."

Second Division—

First-class armoured cruiser—"Deutschland" (flag-ship of Rear-Admiral).

Second-class cruiser—"Kaiserin Augusta."

Third-class cruiser—"Gefion."

The squadron mounts 92 heavy and medium sized guns, with 124 Q.F. and machine guns, and carry 3,006 officers and men. The "Kaiserin Augusta" has been in Cretan waters for some months past, but has left for China, and her place will be taken by the third-class battle-ship "Oldenburg," which has already left Kiel for the Mediterranean. Although called first-class armoured cruisers, the "Kaiser" and "Deutschland" are really old central battery third-class battle-ships, with no great speed.—*Neue Preussische Kreuz-Zeitung.*

THE AUTUMN MANŒUVRES OF THE GERMAN FLEET, 1897.

A *Précis* translated from the Account of the SPECIAL CORRESPONDENT of the *Neue Preussische Kreuz-Zeitung* on board H.I.M.S. "Blücher."

(Continued from p. 1435 JOURNAL R.U.S.I., November, 1897.)

On Sunday, the 5th September, during the stay of the squadron at Kiel, was the boat race for the Emperor's prize, initiated in 1892, and since last year in possession of the "Brandenburg's" mess. The rain fell heavily all the time, but the keen interest in the competition was in no way damped by the bad weather. The course was 2,000 metres from the "Gefion" and ending at the "Blücher." The prize was again won by the port cutter of the

"Brandenburg"; the great beaker was handed to the crew filled with three bottles of sparkling wine, which they emptied at the first round. The second cutter of the same ship took second prize, the second cutter of the gunnery school-ship "Mars" was third, and the first cutter of the "Brandenburg" fourth. All the winning boats were twelve-oared cutters; of the fourteen-oared, the "König Wilhelm's" cutter was first; of the ten-oared, one of the "Hohenzollern's" boats. Bad weather continued all day on the 6th September, the crew were exercised at aiming drill and the usual harbour routine, and what with Q.F. guns, mines, torpedoes, signalling tactics, and boat management, there is truly enough to be learnt by our seamen of the present day, and the time of service is not sufficient to bring the men up to the perfection which should be reached for efficient service in war-time. An amusing and rather trying race was got up amongst the commanding officers of the torpedo-boats, each to pull his own little scallop which the torpedo-boats carry on board. An exciting race over a course of 1,000 metres was won by young Duke Frederick William of Mecklenburg-Schwerin, in which he showed that his physical education had not been neglected. In the evening the commander-in-chief invited the principal officers of the fleet to dine with him—a very enjoyable function, which lasted till midnight. On the 7th September the ships of the first and second squadrons put to sea one after the other, and proceeded to the Skager-rak to continue the manœuvres. In the afternoon the "Blücher" alone remained in harbour, and after viewing the enemy's post would follow the fleet. On the 9th, whilst steaming along the Danish coast to regain the fleet, the "Blücher" fell in with the Danish cruiser "Hekla," and exchanged salutes—a very rare experience for the old torpedo school-ship. About an hour and a half later the Danish battle-ship "Helgoland" was passed, and salutes were again interchanged. At the north of Nordre Rose the "Greif" came out to meet us, easily recognisable by the grey fleet colour and her three grey funnels; she had come so far from the north through one of the belts to the north of Seeland, with a message from the commander-in-chief. On the night of the 8th the "Blücher" arrived in the Cattegat, and exchanged signals during the night with other ships of the fleet. At 8 a.m. the whole fleet were assembled according to programme; only one ship was absent, the "Heimdall," which had touched the ground slightly at the entrance to the little belt. At noon the fleet shaped course to the north for Klagen, a torpedo-boat being despatched to Frederickshaven for the mails. In the forenoon the admiral recalled the cruisers by long-distance signal, and at 2 p.m. the fleet manœuvres began, one fleet manœuvring against the other, the "Blücher" watching the engagement as before. In the end the decision was given in favour of the first squadron, which, although much superior in strength, had no light work to gain the victory, the fine little battle-ships of the "Siegfried" class having been splendidly handled. An attack by the torpedo-boats during the *mêlée* gave a very realistic impression of the fight to those on board the "Blücher." These had been sent away to the north, and, although discovered by the cruisers "Blitz" and "Carola," these were too slow to safeguard the fleet from the attack.

After the exercises the fleet proceeded northwards. The battle-ship "Hagen" signalled that one of the crew had unfortunately been killed by the training gear of one of the turrets; the body was sent back to Kiel by the "Grille" with orders for her to rejoin the squadron off Helgoland. In the evening the fleet arrived off the Klagen lights, where the torpedo-boat arrived with letters. Next day a torpedo-boat was sent with special despatches to Wilhelmshaven, and when within a few miles from Helgoland the fleet were extended in a line more than 60 miles in length to exercise in long-distance signalling, which passed off very satisfactorily, messages being sent from ship to ship through the whole line in a few minutes. At 4 p.m. the fleet anchored to the east of the Dünen Island and Helgoland, the torpedo-boats having been sent to Wilhelmshaven for a good rest after their exertions. On the 13th the weather was fine with a smooth sea, and

at 9 a.m., the fleet weighed and proceeded to the south. At the Jade pilots came on board and brought the ships through the dangerous passage to Wilhelmshaven, where the battle-ships of the first squadron and the look-out cruisers anchored; the smaller ships of the "Siegfried" class and the "Blücher" proceeded into the mines harbour to coal. The "Pfeil" and "Grille" were already there and joined the fleet.

On the 14th, the fleet hoisted mast-head flags in honour of the launch of the new battle-ship "Ersatz Friedrich der Grosse"; the silver wedding of the commander-in-chief, Admiral Knorr, coming on the same day gave occasion for some festivities very pleasing to all hands. Instead of by the Emperor, as was at first expected, the ship was launched by H.R.H. Prince Henry, who, speaking in a clear and deliberate voice, named her "Kaiser Wilhelm II." Loud hurrahs greeted her first entry into her native element from the people gathered on shore, re-echoed by still louder hurrahs from the ships' crews formed in line on the upper decks of the fleet. On the 17th September, the closing strategical manœuvres commenced, lasting four days, *i.e.*, till 20th. The idea on which the exercises were founded was as follows:—The superior fleet of the enemy to direct operations against the German North Sea littoral, its principal object being to blockade or take the mouth of the Elbe, threaten the Kaiser Wilhelm Canal, and if possible destroy Hamburg, after which to effect the disablement of the German naval forces. The enemy's (Yellow) fleet, which besides the national flag, carried a yellow one, consisted of the "Kurfürst Friedrich Wilhelm," "Brandenburg," "Weissenburg," "Wörth," "König Wilhelm," "Sachsen," and "Württemberg," battle-ships, the aviso "Grille," the second look-out squadron, "Carola," "Pfeil," and "Blitz," and a division of sea-going torpedo-boats. This fleet lay, on the 18th September, in latitude 55° North, longitude 6° East, of Greenwich. The German defending fleet were distributed at both horns of the bay, as it was not known whether the enemy would come from the north or the westward. In the Westerems at Borkum lay the admiral of the German fleet in his flag-ship, the "Hildebrand," with the "Beowulf" and "Siegfried," the gun-boat "Krokodil," the cruiser "Gefion," and a division of torpedo-boats. In the Lister deeps, on the north side of the island of Sylt, lay the fourth battle-ship division, consisting only of the "Hagen" and "Frithjof," with the avisos "Jagd" and "Greif," the gun-boats "Natter," "Mücke," and "Skorpion," and two divisions of torpedo-boats. The few available cruisers, avisos, and some torpedo-boats performed look-out duties before Sylt and Borkum. All the coast observing stations were also enrolled in the defence, and one thing to be proved was how far Helgoland might suit as the central station for information. As observing stations on the coast were the light stations, hotels and other houses, especially at such points on the Dünen Chain where the enemy would not be likely to suspect their existence. Telegraph and telephone connections were laid everywhere as necessary, so that the failure of the station might not jeopardise the whole system in any way. On the 18th September, in the morning, the Sylt station reported the enemy closing from the westward. The enemy had obtained information from a fishing-boat that a weak fleet lay off Sylt, and this they would first attempt to destroy. The fleet, however, in the Lister deeps had, in the meantime, received a telegram from Borkum to proceed to south of Helgoland with all despatch and effect a junction with the others between this island and the Weser light-ship. Only the fast look-out ships, "Jagd" and "Greif," were left to keep touch with the enemy; but later they were joined by the "Gefion," which had been sent from Borkum to Sylt. The commander-in-chief's ship, the "Blücher," played the part of onlooker only, and visited both fleets alternately, in order to follow their movements and to act as umpire indicating such ships as he might consider put out of action. The Yellow Fleet steamed about before Sylt, firing a few shots now and again, until it was ascertained that the defenders had forsaken their hiding place behind the island.

The course was then shaped to the south-west for Borkum, the torpedo-boats having notified that the defending fleet was steaming in this direction. This information, however, was not correct, the slow coast-defence ships had passed the Sider light-ship on a southerly course and were proceeding towards the Weser light-ship. The fast cruisers of the defence "Gefion," "Jagd," and "Greif" succeeded in leading the enemy astray by standing further out to sea than the battle-ships, and thereby covering their retreat, an excellent example of the great value of fast cruisers as look-out ships for a fleet. On the 18th September the barometer was unsteady with a rough sea, and the admiral with his coast-defence ships, under these conditions, dared not make an attack on the heavier and much more seaworthy ships of the enemy. Indeed, it was difficult for the ships of the "Siegfried" class to work their guns in the rough sea, and high time for the four protected gun-boats to retreat into smoother water, under the protecting lines of the Weser or mouth of the Jade. They pitched and rolled so heavily that already it was impossible to loose the guns, and even if this were possible no effective aim could be taken; the services of these ships were, therefore, lost to the fleet for the time. As the darkness set in it was proposed to attack the enemy with all the available torpedo-boats, so as to reduce his strength, if possible. The heavy weather, however, prevented this; the torpedo-boats were so knocked about and washed down by the heavy sea, that any effective use of their torpedoes was not to be thought of. This coming with unusually heavy, not by any means stormy, North Sea weather, it was plainly shown that the big battle-ships now, and in the future, as for centuries past, are, and will remain, the *ultima ratio* of the struggle on the sea. With all the other protected ships and torpedo-boats practically useless, the big battle-ships steamed proudly ahead on the heaving sea almost undisturbed, and could use their armament without hindrance. On the morning of the 19th September, the Yellow Fleet appeared unexpectedly before Borkum. Its slow avisos, "Blitz," "Pfeil," and "Carola," were at a great disadvantage against the faster ships of the defence, "Gefion," "Greif," and "Jagd," and therefore failed to discover the whereabouts of the defending fleet. The admiral of the Yellow, knowing that the defenders could not stir far from the coast on the rough sea, threw a couple of shots over the island, to disturb any torpedo-boats which might have taken shelter there, and then proceeded in line ahead, with the avisos on the left wing, along the islands of Juist, Norderney, Baltrum, Langcoog, and Spieleroog, sighting the defending fleet off the heights of Wangeroog. The five ships of the "Siegfried" class lay at anchor by the outer Jade light-ship; behind, in the harbour of Schillig, could be seen the gun-boat fleet; the three cruisers had been detached, and retreated seawards. The three defending divisions of torpedo-boats were sent to Helgoland to await a favourable moment for attack under the shelter of the island, they being kept informed of the enemy's movements by the fast cruisers. The enemy came on with two cruisers and torpedo-boats detached to the north, and meanwhile the "Siegfried" and "Mücke" divisions weighed anchor, keeping, however on the narrow waters to north-west of Wangeroog. A long-distance artillery duel now developed, the commander-in-chief on the "Blücher," as a result, putting a ship on each side out of action, the "Brandenburg" and "Beowulf." Towards Helgoland an engagement took place between the cruisers of both fleets, by which the "Jagd" and "Pfeil" were also put out of action. The Yellow Fleet made many attempts to force the Jade, but were repulsed by the heavy fire of the defenders. In the evening of the 19th the defenders again took up their old anchorage, the disabled ships having been sent to Helgoland to anchor. The weather having moderated, the Yellow Fleet retired to sea to the north to escape a torpedo-boat attack, whilst its own torpedo-boats made an attack at 11 p.m. on the ships in the Jade. At the same time, however, the Yellow Fleet was discovered by the defending boats and attacked vigorously by the three divisions. Both sides claimed success, the evidence being very

conflicting, the ships claiming to have had the boats under fire before they got within 1,000 metres, the boats protesting that they had got within 500 metres before being discovered. In the result one battle-ship, the "König Wilhelm," and about a dozen torpedo-boats were put out of action. Next day the manœuvres were repeated, a desultory action between the attack and the defence, in which it was impossible to say which side had the advantage, and which could only be satisfactorily decided in actual war. It may be said, however, that of the Yellow were victorious, and had rendered the defending fleet harmless; it could blockade the Elbe and Weser undisturbed, send a few ships up the river, and lay the rich merchant harbours in ruins. If the defending fleet were victorious, which, under the conditions obtaining, is very improbable, the enemy would have to retire considerably crippled; or, in the third place, the circumstances of 1870-1 might be repeated; the enemy could lay untouched before our doors, and our own fleet be confined to the duty of protecting itself and our own ports. In this case also our trade would be destroyed, and the Elbe and Weser seriously threatened, for the manœuvres have shown that the enemy would have full liberty of action before the Elbe. The commander-in-chief notified the completion of the manœuvres at 5 a.m. on the 21st September. Later the whole fleet assembled at Wilhelmshaven; the manœuvre fleet was reduced to the battle-ships of the first squadron, the gun-boats retired to Kiel and Dantzic, the "Siegfried" class reduced to two ships, and the "Blücher" relegated to her old duties of torpedo school-ship. The commander-in-chief and his staff returned to Berlin, there to utilise the experiences of this year's manœuvres in preparing for those of next summer. In this way, with the utmost industry on all sides, is the perfection of our naval fleet being worked out.

MILITARY NOTES.

PRINCIPAL APPOINTMENTS AND PROMOTIONS DURING NOVEMBER, 1897.

General Hugh Rowlands, V.C., C.B., to be Colonel of the Duke of Wellington's (West Riding) Regiment; Major-General R. C. Whitehead, C.B., Reserve of Officers, to be Colonel of the Northamptonshire Regiment; Major-General E. Faunce, C.B., Indian Staff Corps, to be Lieutenant-General; Colonel F. H. Vanderzee and W. A. Lawrence, Indian Staff Corps, to be Major-Generals; Major-General R. MacG. Stewart, C.B., R.A., to command the Royal Artillery in the Southern District; Colonel F. Ventris, *p.s.c.*, to command a Second-class District in India, with the temporary rank of Brigadier-General; Colonel G. E. Harley, C.B., to be A.A.G., Belfast District; Colonel A. F. Hart, C.B., *p.s.c.*, to command 1st Infantry Brigade, Aldershot; Major and Brevet Lieut.-Colonel R. B. Adams, Indian Staff Corps, Lieutenant A. E. Viscount Fincastle, 16th Lancers, and Lieutenant A. C. Costello, Indian Staff Corps, awarded the Victoria Cross for conspicuous bravery in the operations on the N.W. Frontier of India.

HOME.—The earliest method of obtaining military forces was for the Crown to contract "with some knight or gentleman expert in war, and of great revenues and likelihood in the country, to serve him in war with a number of men";¹ and this principle, though it varied in many circumstances, prevailed till the latter part of the eighteenth century.² The institution of a Standing Army in Great Britain may be held to have existed for two hundred years. A few regiments were retained on service at the Restoration, in 1660; but it was only after the accession of William III., that under the operation of the "Bill of Rights," the keeping up of

¹ Lord Coke.

² Clode's "Military Forces of the Crown," Vol. II., p. 1.

a Standing Army was put on the legal footing which has been practically ever since maintained. To this day the Army exists from year to year under Act of Parliament, which opens thus:—"Whereas the raising or keeping of a Standing Army within the United Kingdom of Great Britain and Ireland in time of peace, unless it be with the consent of Parliament, is against law."

Prior to the present century the policy of this country was to fill the ranks of the Army with the cheapest labour, and at the lowest cost to the State.¹ For many years there was little or no inducement for men to enter the infantry—the principal arm of the Service. The pay was small, the barracks, when they existed, were execrable, the discipline, or rather the treatment of the soldier and the punishments, severe, and the service abroad was equal to the late punishment of transportation.²

As regards the constitution of the Army and its up-keep in men, the regiment was the important entity, and the colonel was a functionary on whom much depended—even the regiment being known by his name until 1751. The colonel received, through the regimental agent, the pay and allowances for the establishment, and made his own terms as to recruiting, through his captains; the allowance, which covered clothing, went to the "stock purse" of the regiment, and, after settlement of the year's accounts, the balance was divided among the captains. The officers thus had a pecuniary interest in maintaining the regiment and preventing desertion and waste, but the door was opened to fraud and false returns.³ This system, which was known as the "Contract System," succeeded in supplying England with the handful of men she required for her Standing Army in time of peace; but it was inapplicable in time of war, for two important reasons: in the first place, it was the national policy that the Army should be disbanded after each war, and therefore, had Parliament adopted long enlistments, an excuse would have been given to the Crown for keeping the Army on foot while those enlistments were in force; in the second place, the absence of any barrack accommodation⁴ was due to the well-founded apprehension that an increase of the number of barracks would infallibly lead to an increase of the strength of the Standing Army.

The engagement of the soldier in these "contract armies" was for unlimited or life service, but this was frequently modified, as explained above, when the Army was required to be increased for a war. Under Queen Anne a three years' term was general; in the special circumstances of 1745, men were enlisted for two years; and in 1759 and 1775 the term was three years, or till the end of the war. But the adoption of short-service enlistment, on the breaking out of war, was due in no way to any acknowledged superiority of short service over long or life service, but entirely to political causes. Prior to the present century, then—although ordinary enlistments still continued to be made for life—short service always prevailed in the Army whenever Parliament raised it from a peace to a war establishment, and provided the recruits by coercive measures or by a special vote of levy money.

Under the afore-mentioned conditions, the Army was recruited by voluntary methods, not, however, without the additional offer of a bounty, a system which may be said to have obtained from 1715 to 1867. In 1745 the bounty for the Guards was £6. In 1759 the bounty offered by Government having proved

¹ Clode, Vol. II., p. 1.

² Royal Warrant for drafting troops for service in Minorca, 31st October, 1718.

³ "The Army Book for the British Empire," p. 15.

⁴ In 1697 there was only barrack accommodation in England for 5,000 men, and the misery endured by the unfortunate troops who were thus exposed, all the long year, to the vicissitudes of an English climate, was great. Yet this state of things continued, more or less, until 1792.—R. H.

insufficient, "several large towns opened subscriptions to be appropriated as bounty money to volunteers enlisting in the Army. The London subscriptions amounted to £7,039, procuring 1,235 men at £5 5s. each."¹ This was no isolated occurrence, for in 1716 "large contributions had been made by different counties and towns for the purpose of assisting Government in the raising of recruits."² In 1775 the bounty was £3; in 1803 it was £16; in 1855 it was £8 for the Infantry, £9 for the Marines, and £10 for the Artillery; and bounties continued to be given, at varying rates, until 1867, when they were abolished.

In addition to the ordinary method of recruiting for the Army, it was found necessary, in extraordinary times—as of war with foreign Powers—to resort to two other methods: impressment, or what amounted to conscription, for the criminal and pauper classes, and to volunteers from the Militia. At an early period after the establishment of a Standing Army, it became an important consideration how men should be supplied to carry on the war with France. The annual waste was said to be 3,000 men, and in the State Tracts of William III.'s reign is found, under date of the year 1696, "A discourse about raising men," in which the author undertakes to show that, "It is more for the interest of the nation that the parishes should be obliged to provide men for the service of the war than to raise them in the ordinary way." Now, it so happens that the criminal and pauper classes have always been resorted to whenever Parliament has sanctioned a conscription for the Regular Army. It was first applied to imprisoned debtors. In the year 1695-6 occasion was taken to amend the then existing law³ for the relief of insolvent debtors, and in the amending Act⁴ was inserted a clause that no man below the age of forty years should be discharged under the Act during the war with France, unless he enlisted in the Army or Navy, or found a substitute.⁵ In a few years later the debtor prisons appear to have been relieved of their inmates for the express purpose of recruiting the Army; for the preamble of the 1 Anne, c. 19, while attributing their miserable impoverishment to war losses, states the ability and readiness of many prisoners to serve Her Majesty by sea or land. This Act was shortly after amended by the 2 and 3 Anne, c. 10, and the general purpose of both Acts is explained to be, "The supply of Her Majesty with recruits both by sea and land, during the war, as well as to relieve the poor prisoners." Persons convicted of smuggling or of running away from and leaving their families chargeable to the parish were, in lieu of the ordinary punishment awarded by the laws, to be handed over to the military authorities, and to serve as impressed soldiers. Many men were obtained for the Army under these Acts.

The persons to whom the same kind of conscription was next applied were imprisoned criminals, to whom the Crown, acting upon the prerogative, gave a free pardon conditional upon their enlisting into the Regular Army. The earliest trace of this system upon the Statute Book is to be found in the Mutiny Act for the year 1702.⁶ From the date of this enactment to the end of the Peninsular War, a system with criminals arose—which was analogous to the present ticket-of-leave system, but with this difference: that formerly the offenders were provided with the means of earning an honest living and a good name under the strict discipline of the Army, whereas in recent years they are turned loose upon the civil community, to get—what is next to impossible under the surveillance of the police—an honest living with a dishonest character.⁷ In 1779, during the War of American

¹ Clode's "Military Forces of the Crown," Vol. II., p. 5.

² Marshall's "Military Miscellany, 1846," p. 48.

³ 22 and 23 Car. II., c. 20.

⁴ 7 and 8 Wm. III., c. 12.

⁵ Sec. 14; Vol. VII. Stat. Realm, p. 77.

⁶ 1 Anne, Stat. 2 c. 20; also Mutiny Act 1703, 2 and 3 Anne, c. 17.

⁷ Clode's "Military Forces of the Crown," Vol. II., p. 14.

Independence, an Act was passed for impressing soldiers. Thieves, too lame to run and too poor to bribe, were caught. But the respectable soldiers considered it a grievous and cruel insult to have these men forced on them, and loudly complained to their officers.¹ Things were as bad quarter of a century later. In 1806 another recruiting crisis occurred. "Throughout the whole war great difficulty had been experienced in providing a proper supply of soldiers";² the hulks were drained, and the prisons emptied more than once to supply the want of recruits";³ the bounty rose in 1804 to £16 16s.; but all these measures failed. The effectives were 25,000 men below the establishment in 1806; and in that year Parliament was again called upon to decide "how we are to ensure to this country, what unquestionably it has never had, a never-failing and adequate supply of regular soldiers."⁴

Early in the reign of Queen Anne was initiated, and throughout the same reign was continued, the system of recruiting for the Army by conscription from the *pauper*, as distinguished from the *criminal*, class; and statutes, seven in number, were in operation from 1703 to 1712 with this object. This system of impressment was resorted to in 1745⁵, in 1756-7⁶, and during the reign of George III.⁷

Since the re-organisation of the Militia in 1757, it has been largely relied upon to fill the ranks of the Regular Army, but it was necessary to offer a bounty to the men to transfer their services. In July, 1799, 26,237 men volunteered from the Militia to the Regular Army at a bounty of ten guineas for five years' service or during the war, and until six months after the conclusion of peace. In October, a further number of 26,173 were obtained, making a total of 52,410 transferred in six months. In 1805-6, ten guineas was paid to every Militiaman who volunteered for unlimited service, and 16,548 men transferred their services, of which number 11,000 volunteered in a fortnight. In 1807-8, 29,108 men volunteered, and in the year 1809-10 the number was 22,885, of which nearly 16,000 volunteered in the month of April, 1809, less than three months before the battle of Talavera was fought, one of the bloodiest battles in the Peninsula, on which occasion, to quote Napier, "the greater part were raw men, so lately drafted from the Militia, that many of them still bore the number of their former regiments on their accoutrements." In 1811-12, the number was 21,380 men; and in 1813-14, 22,491; while in 1815, on the renewal of the war with France, the Militia volunteered in large numbers to the Line, and fought in the battle in their Militia uniforms.

Between 1807 and 1813, inclusive, the bounty paid to these Militiamen to transfer their services to the Army was as high as fourteen guineas for unlimited and ten guineas for limited service. It may be added here that at the end of the year 1813, when Europe was making a supreme effort to complete the ruin of Napoleon, the Army was so pressed for men that an Act of Parliament⁸ was passed by which three strong Provisional Battalions, composed entirely of Militia officers and men, proceeded to the Peninsula and joined the Duke of Wellington's Army, where their fine physique, discipline, and general appearance attracted

¹ Grose's "Military Antiquities," Vol. I., p. 94, foot-note.

² Alison's "History of Europe," Vol. VI., p. 105.

³ Dupin's "Military Force of Great Britain."

⁴ Wyndham's Speech in the House of Commons, 1806.

⁵ 17 George II., c. 15.

⁶ 29 George II., c. 54.

⁷ 18 George III., c. 53, and 19 George III., c. 10; but the Impressment Act expired in 1780, since which period all Regular soldiers have, as a rule, been volunteers.

⁸ 54 George III., c. 1., secs. 1 and 2.

universal admiration.¹ Information in regard to the means adopted to recruit the Army, from the peace of 1816 to the present time, will be given in the January number of the JOURNAL.

In the *United Service Magazine* for November and December, Captain Ph. Salusbury, apparently of the Congo State Military Service, gives the public the benefit of his criticism and advice in the matter of regimental badges. The articles, which are entitled "Arma Cano," are written with some show of authority as an heraldic expert, and evidently in all seriousness. To officers in the Army who take an interest in all that appertains to regimental distinctions, some of the crude suggestions of this officer will afford amusement. One of the principal is that in cases where battalions have lost their commanding officers in action, the fact should be perpetuated by the insertion of his arms on a hatchment on the colours of the regiment; and so satisfied is he with the soundness of this recommendation that he, in like manner, urges the adornment of the colours with fac-similes of the "Victoria Cross" or "Distinguished Service Order," in cases where such distinctions have been gained by members of the battalion. He would deprive the Inniskilling Dragoons and Royal Inniskilling Fusiliers of their castle out of deference to the susceptibilities of their Roman Catholic countrymen; and would initiate a truly novel reform by granting the badge of "the Globe" to the East Lancashire, East Surrey, and Duke of Cornwall's Light Infantry, in reward for their having been raised as, and served for a few years as, Marines! thereby showing his want of knowledge of the circumstances under which that honour was granted to the Corps of Royal Marines.

The increased interest now being taken in military matters generally, due in a great measure to the recognised unsatisfactory condition of the recruiting force for the Army, may perhaps induce those who have the welfare of the soldier at heart to turn their attention for a time to the efforts which are being made in many quarters to raise the tone of the British Army and the surroundings of the individual. It may not be generally known that until recent years soldiers, on visiting London on furlough or otherwise, were seriously handicapped in the matter of lodging accommodation. The non-commissioned officer or private soldier has no desire to pose as a subject of charity, nor does he consider himself an object of philanthropic effort. He has nothing to complain of, it is true, in the matter of clothing, board, housing, medical attendance, and so on; but he cannot be said to be over affluent in the matter of ready money. This is brought home very forcibly to men going on furlough who, living at a long distance from their homes, are constrained to spend a considerable portion of their savings on their railway fare, and find themselves, in consequence, pinched for pocket money. To these, who come to London either to stay or to break their journey, the question of a respectable lodging at a figure commensurate with their means is a matter of the very greatest importance. It is well-nigh impossible, in the metropolis of London, for a married couple or single soldier to secure a respectable lodging, with decent surroundings, in any public lodging-house. Those interested in the soldier have long since recognised this, and they have exerted themselves, with no little measure of success, to bring about the establishment of Soldiers' Homes. The most important of these institutions in London is that known as the "London Soldiers' Home"—one of the branches of the original Soldiers' Home, founded at Aldershot by the late Mrs. Daniell, widow of an Army officer—which has now been established some years in James' Street, Buckingham Gate, alongside Wellington Barracks, and where it

¹ Hansard's Parliamentary Debates, 1852. The information regarding the transfer of the Militia to the Army and the bounties paid is taken from a lecture delivered in this Institution on 9th February, 1890, by Major R. Holden.—R.U.S.I. JOURNAL, Vol. XXXIV., p. 745.

quietly and unostentatiously carries on very excellent work. To such an extent has the home increased in popularity that, since this larger building was opened in April, 1890, the beds have been occupied above forty-three thousand times. Within two years nineteen beds had to be added to the original provision, but even this extended accommodation is insufficient to meet the increased demands made on the house. Quite recently three married couples, with children, had to be refused, and frequently the sitting-rooms are crowded with soldiers sleeping on the settees and tables, while others apply in vain. The house is always open for the inspection of those who take an interest in the work which it performs for the Army. It is very much patronised by young soldiers and band and drummer boys, and for this reason alone is specially deserving of support. The cubicles and beds are scrupulously clean, no intoxicating drinks are permitted, and the whole surroundings are essentially elevating in tone. An effort is now being made to add further to the building, and an appeal is made to the friends of the British soldier to assist the committee in raising the necessary funds. Donations, however small in amount, may be sent to Miss Hanson at the Home, James' Street, Buckingham Gate, or at "The Mission Hall and Soldiers' Home, Alder-shot," or may be paid to "The London Soldiers' Home Alteration Fund" at the London and County Bank, Westminster Branch. Few institutions connected with the Service carry on better work than this, and few are more deserving of support.

The general annual return of the British Army is, as usual, a very dry document. It consists of 150 pages of tables, through which the reader has to wade if he is ambitious of gaining any information on the subject. It is a pity that the return is not accompanied by a preface or summary.

1. The total strength of the Regular Army, including Colonial corps, but excluding Native regiments in India, was, on the 1st January, 1897, 220,869 men, as compared with 190,245 men twenty years ago. If one considers the great increase which has taken place in our liabilities abroad during that period, the addition to our strength is an insignificant one. The cavalry has increased by 2,000, the Royal Artillery by 2,283, the Royal Engineers by 2,000, departmental corps by nearly 4,000, and Colonial corps by 3,000. The Guards have remained about stationary. But the most important branch, the Infantry of the Line, has only increased by 17,780. But against this increase we have to allow for the large number of men of immature age. The number of men under the age of twenty who were serving in the Army on 1st January, 1897, amounted to 28,897, of which the larger majority belonged to the infantry.

2. The strength of the Army by arms was as follows:—Household Cavalry, 1,300; Cavalry of the Line, 18,284; Horse Artillery, 3,785; Field Artillery, 14,451; Mountain Artillery, 1,408; Garrison Artillery, 17,663; Royal Engineers, 7,833; Foot Guards, 5,850; Infantry of the Line, 137,022; Colonial Corps, 5,218; Army Service Corps, 3,517; Ordnance Corps, 1,210; Medical Staff Corps, 2,632; and Army Pay Corps, 569. 76,937 of all ranks were quartered in England, Wales, and the Channel Islands; 3,630 in Scotland; 25,841 in Ireland; 38,884 in the Colonies and Egypt; and 75,540 in India.

3. The increase in good behaviour and in the intelligence of the soldier during the last twenty years has been most satisfactory. The number of men tried by court-martial in 1877 was 15,793; in 1896 it had diminished to 9,167, which is a great improvement, even after allowing for the greater indulgence allowed in these days. During the same period the minor punishments decreased by nearly 80,000. The number of fines for drunkenness has also much decreased. The total number of men fined was 14,441, being a proportion of 68 per 1,000 of the average strength. It was among the Infantry of the Line that this average was by far the highest—viz., 89 per 1,000—while in the Household Cavalry it was as low as 2, in the Cavalry of the Line, 19; in the Royal Engineers, 15; in the Colonial

Corps, 8; in the Army Service Corps, 11; in the Ordnance Corps, 12; and in the Medical Staff Corps, 19; while the Army Pay Corps has the unique distinction of not being debited with a single case. The net loss by desertion was again on the decrease, namely 3,367, as against 3,453 in 1895, and no fewer than 5,423 in 1886. On the other hand, there is a considerable increase in the number of men in possession of good conduct badges, 135 men being in possession of no fewer than six badges. The discipline of the Army may be said to be very good, considering the disinclination to submit to any kind of restraint which characterises all classes of civilians.

4. From the section of the report devoted to "ages, heights, and chest measurements," we gather that the Army contained 4,746 non-commissioned officers and men of 6 feet and upwards, and 6,864 between 5 feet 11 inches and 6 feet, while there were 6,115 instances of chest measurements of 40 inches and over, and 9,583 of between 39 inches and 40 inches. With respect to the important question of the age of our soldiers, it is officially on record that the proportion per 1,000 men under 18 years is now 17, as against 19 in 1884 and 1885, and 16 in 1878 and 1879. Meanwhile, since 1878 the proportion per 1,000 men of soldiers over 40 years of age has sunk from 83 to 7. The very common impression that Irishmen form "the backbone" of the British Army is rudely dispelled by the figures in this return. As a matter of fact, the Army last year contained 159,500 men of English birth, 16,208 of Scottish, and 25,669 of Irish, besides 8,058 soldiers born in India or the Colonies, and 150 foreigners.

5. The First-class Army Reserve numbered 78,100 in January, 1897. There were only 82 effectives of the second class, made up of Class II. of 1867, the Reserve of 1859, and enrolled pensioners.

6. The Militia establishments, as laid down in the Army Orders of 1896, was 134,746, but the actual number enrolled fell 16,973 below this, being only 117,773. This is not to be wondered at, considering the want of attention paid to the Force, and the dissatisfaction which exists amongst all ranks. Of the above, 98,761 were present at training, while 6,721 were absent from inspection with leave, 7,231 without leave, and 5,060 were excused training. The total of the Militia Reserve, a most efficient and reliable body of men, was 30,374 on January 1st last.

7. At the same date the enrolled strength of the Yeomanry Cavalry was 10,342 (9,380 in England, and 962 in Scottish regiments); while on November 1st last year the Volunteer force present at annual inspection, including the staff, showed an aggregate of 204,229. The number of "efficients" was, however, considerably above this figure, namely, 229,034, composed of 7,815 officers and 221,219 non-commissioned officers and men. Proficients who had earned the special grant of 50s. were 19,852 in number, and there were 1,528 Volunteer officers who had earned the special grant for tactics or artillery. Besides, forty officers and non-commissioned officers and twenty officers and non-commissioned officers are returned as having earned the special grants for signalling and transport duties respectively.

The September number of the *Journal of the United States Cavalry* contains an interesting article by Lieutenant A. K. Capron, 7th Cavalry, entitled "Some Important Factors in the Instruction of Cavalry." The following extract will interest British cavalry officers:—"Often while witnessing a ride in the 'bull ring,' or riding hall, I have been struck by the number of poor horsemen. It would seem that but few of the men have good hands or a natural seat, but that in nearly all cases the shoulder joint and arm of the bridle hand are held fixed and rigid, and do not yield to a single motion of the horse. As stated above, that easy, natural seat, the very foundation of all military riding, is conspicuous by its absence. Seldom are the legs properly applied as aids, but in the majority of cases no attempt is made to use them for

such purposes at all, as many of the men cling to their horses with the calves, and thus render it impossible to use the lower leg as an aid.

After much thought upon the subject, I have come to the conclusion that there are three principal reasons for this bad showing. They are as follows:—

1. As a general thing, when recruits are being taught to ride, almost as soon as they can 'hold on,' they are put through the mounted exercises and the various other circus feats which now constitute such an important part in the education of a cavalryman. Now, as the men have not acquired a natural seat, and do not understand even the first principles of horsemanship when they begin this fancy riding, they are forced to hold on as best they can, and commit the errors outlined in the preceding paragraph. It is a well-known fact that when once a recruit falls into the habit of clinging with his calves he can never become a perfect master of his limbs, and therefore can never learn to apply the aids properly, while as to the results of depending upon the reins to maintain the balance, nothing need be said.

The mounted exercises are very good indeed for the purpose of making the men quick and agile, and to give them confidence and a well-balanced seat in every variety of movement. They should not, however, be given until *after* the recruits can *ride* and have a firm, close seat, which is entirely independent of reins and stirrups.

2. When first learning to ride, the hardest thing to attain is 'balance,' and if a man is first taken out bareback he has a very difficult job in endeavouring to maintain his balance. Consequently, in order to save himself from falling, he soon gets into the way of clinging to his horse like a monkey, and not only acquires a bad position but ruins his 'hands,' as he holds on to the reins with all the strength of his arms.

Experience has shown me that the best method of instruction is to give the men saddles for the first two months. The saddle with stirrups assists them in assuming the proper position, helps them to keep their balance, and aids the instructor to cause them to use their hands lightly from the very first lesson. After two months' instruction with the saddle, then give them four on the blanket, and it will be found that they will, at the end of their course, have better, firmer seats, and lighter hands, than the men who were first "shaken" into the military seat bareback.

They also make more daring riders, as having had no falls or very few at the most, they are not very careful, and, as they can combine the action of their hands and legs in a better manner than the men who have fallen into the 'monkey seat,' they will be able to turn their horses when and where they please, and thus save themselves and their mounts many a hard tumble, the very knowledge of which will serve to make them dashing and fearless horsemen.

Now in the Army, the very first thing is to put the recruits on bareback, and of course they soon fall into the faults explained above.

3. While it may not be necessary to instruct all of our men in 'high school riding,' still they should be taught to supple and unite their horses, so as to have them under complete control. At present they know nothing of the power to be gained by the proper use of the legs, or of the effect of the hand, while as to producing the different forms of collection of the forces of the animal, and the best methods of overcoming his resistances, they are completely at sea.

Horsemanship is the groundwork upon which the efficiency of cavalry depends. Therefore, one of the best things that could be done for the cavalry would be to establish a 'school of horsemanship,' where officers selected from every cavalry regiment could be sent and taught the true art, and also to train a horse and rider from the beginning to the end. The theory and practice of biting, the treatment and care of horses, their diseases, the principles of shoeing, hygiene of stables, etc., should also comprise a part of the course. These officers, upon returning to their regiments, should be required to instruct

the junior officers and the non-commissioned officers in the same subjects. Then we would have regiments that could *ride*, and not merely stick on their horses; that could take their mounts at any gait over any kind of ground; that could use their weapons under all conditions; and that while doing all of the above, could save their horses by bringing the strain of the work upon the stronger parts.

But the inspectors make the Army. Most of them ask for fancy riding, and of course they get it. And of course our recruits are taught to vault over a horse before they can sit on one. If the inspectors wanted *horsemanship*, they could get that also; but they do not, and it is for this reason that the art of riding—*military riding*—receives so little attention in our Service; for if a man's record depends upon his ability to stand on his head, he is going to practise that, and that only.

Many of our men can stick on a horse however wild and vicious he may be, and nearly all of them manage to go through the different drills in some sort of fashion. But the ability to simply stay on a horse is not horsemanship. These men use only brute force instead of skill, and as they cannot collect their horses by the use of their weight, of the legs and of the reins, they cannot get from their mounts the most complete obedience.

Quite a number of troopers sustain themselves when riding at the trot or when jumping, by the reins; many do not sit well down in the saddle; some lean the body too far to the front or rear; others curve the back to the rear; while nearly all turn out the toes. Very few enlisted men can cause their horses to execute the gallop changes, or in other words, compel them to gallop true under all conditions, and I have seen many of them ride on the fork. Now, all these faults and the many others committed by the majority of troopers at every drill, are due entirely to bad preliminary instruction, given by drill masters who do not know how to ride themselves, because they were never taught *horsemanship*.

If these instructors, who are usually non-commissioned officers, had been taught by officers who had graduated from the 'school of horsemanship,' and who, consequently, knew how to train a horse and rider from the beginning up, the result would have been much different. They could then have taught the recruits, not only to vault their horses and perform the other mounted exercises, but, what is of more importance, would have made horsemen of them."

CANADA.—The selection of umpires at manœuvres, such as were held at Toronto on Thanksgiving Day, the 25th ult., is something that should receive more attention than has been given to it in the past. Some difficulty, it is true, is found in getting officers to consent to act, but some wise discrimination should be made in the selection. In England, officers who have passed the Staff College, or those who have made tactics a study, are usually selected with great advantage to those engaged. In Canada it usually happens that the only qualification required is being "a good fellow," and those selected almost invariably know practically nothing of tactics or the manœuvring of two or more arms in the field. It is hardly fair to put an officer in command of a force of all arms who has had no instruction or experience and expect him to make a tactical success of field-day manœuvres. The practice here seems to be to carefully exclude officers who have been sent to England for the purpose of acquiring this knowledge, and substitute officers without any experience and allow the staff and permanent corps officers to be simply umpires. Why should this not be reversed, and those who have received instruction at Canada's expense given command of the opposing forces and show officers how it should be done? There are officers on the district staff and on the staff of the Military College engaged in the theoretical instruction of tactics; why are they not selected as umpires? The mere petty expense to the Militia Department of obtaining competent men should not stand in the way of valuable instruction such as manœuvres at Toronto afford.

G.O. 101 notifies the formation at Ottawa of what is called the Ottawa Brigade, to be composed of corps of the Active Militia with headquarters in the city of Ottawa, and to be under the command of an officer of the headquarters staff. The Ottawa Corps, with 56th and 59th Batt. and 8th Field Battery, Gananoque, compose the 8th Brigade Division, under the command of the D.O.C. of Military District No. 4. No notification is made of any change in the division or of the formation of a new division. A brigade such as this one formed at Ottawa, composed of cavalry, artillery, infantry, and rifles, is something entirely novel to Canada. There are brigades of cavalry and brigades of infantry in the establishment list of the Army, but there is no brigade composed of the three arms.

The usual annual field manœuvres at Toronto were held on Thanksgiving Day, 25th November. The Militia was divided into two forces, an eastern force, under the command of Lieut.-Colonel Davidson, 48th Highlanders, and composed of one squadron Royal Canadian Dragoons, one section 9th Field Battery, Queen's Own Rifles, 48th Highlanders; and a western force, under command of Lieut. Colonel Mason, Royal Grenadiers, and composed of one squadron G.G.B.G., one section 9th Field Battery, No. 2 Company R.R.C.I., Royal Grenadiers, 13th Batt.

Officers and men appeared in drill order, with leggings and haversacks. Twenty-five rounds of blank ammunition per man and gun was supplied.

The general idea was that an eastern force halted for the night at Thorncliffe Farm, and a detached force of a western army occupied Upper Canada College. Special ideas were forwarded to officers commanding opposing forces on the 22nd, and they issued their orders to officers commanding units. These orders gave full details upon the (a) general direction and object of the movement, military situation and condition of affairs; (b) the preliminary positions to be taken up by each distinct part of the Force, with directions for attack or defence and hour of same; (c) date, hour and order of march and the roads to be followed; (d) special instructions for flanking parties and detachments of all sorts, employment of signallers, etc.; (e) position of O.C. the force at all times. Parts V., VI., and X. (1) Infantry Drill, 1896, were ordered to be carefully read, and sections 204 to 212 understood by officers and N.C. officers.

The boundaries were—On the north by Eglinton Avenue, on the east by Broadview Avenue and Don Mills Road, on the south by Gerrard Street, on the west by Yonge Street, Davenport and Spadina Roads. Rough plans were used. Major-General W. J. Gascoigne, commanding the Militia of the Dominion, acted as Umpire-in-Chief.

It is somewhat surprising that some of the permanent officers who have been sent to England at considerable expense, and passed an examination for tactical fitness to command, are not entrusted with the command of these opposing forces. It is unreasonable to expect that Militia officers, who have had no opportunity to manœuvre with other arms of the Service, should be able to take command of a mixed force.—*Canadian Military Gazette*.

AUSTRIA-HUNGARY.—The Imperial manœuvres for the year 1898 will, according to present arrangements, be held in the district of the 7th Army Corps. The journey through South Hungary, undertaken by Field-Marshal Baron von Beck, Chief of the General Staff, shows that combined operations are contemplated.—*Militär-Zeitung*.

FRANCE.—The last part of the Alpine manœuvres, executed by the 29th Division, resembled a real campaign as nearly as possible. The successive developments of the idea were not fixed beforehand, special instructions being each day issued to both sides by the General as the situation seemed to require.

The consequence was that, as in war, the unexpected happened. A force of six battalions and three mountain batteries had occupied Anthiou, a hill crowned by a fort, dominating the district of Nice. This force held also the chain of defences as far as Peira-Cava on the west of Anthiou and Mangiabo on the east. On the 11th September the 29th Division marched against the enemy's positions. The 58th Brigade was formed into three columns, the centre one of which carried the summit of Peira-Cava; the right took Moulinet and Simon, and the left performed a turning movement on the enemy's right. On the 12th September the division advanced to re-take Anthiou. Mangiabo was attacked by three battalions, the advance being made by night in total silence. Smoking was prohibited, and all the equipment likely to make any noise was left behind. Finally, the hill-tops surrounding Anthiou were taken, and consequently the enemy was easily dislodged from that position. The Alpine manoeuvres were unusually fatiguing this year, but were carried out with energy and endurance.—*Avenir Militaire*.

Criticisms on our grand manoeuvres of 1897 will be of no avail unless we make note of them for our guidance on the next occasion. An Army that does not resolutely improve itself is one that falls behind, and neglects its main object, which is *preparation*. With regard to Concentration, the marches by which it is effected are too often regarded as preliminary proceedings which scarcely come within the definition of manoeuvres, but it is certain that all operations should resemble those of real war as nearly as possible, and there is but little instruction in the marches of concentration as now carried out. They should be performed as in the presence of an enemy, with all the accessories required in the field, and be timed in accordance with the movements of other troops, as would be the case in war. It is not enough to bring contending armies face to face: the most difficult and instructive work, especially for the staff, in the process of concentration. Nothing, for instance, could better test the flexibility of troops, or the efficiency of their leading than to order a sudden change in the concentration, of which history shows many examples. On the subject of Cavalry Tactics there is still much confusion of ideas. It is incorrect to suppose that the cavalry can obtain no results except by brute force. On the contrary, it is an arm that can always act by *ruse*, by surprise, by producing moral effect, and by demonstration. In this way its success may be just as great as in the attack, and therefore it is utterly false to sum up cavalry tactics in the word *charge*, which in reality should merely denote its *ultima ratio*. The rule now in the manoeuvres is for cavalry to charge everything that comes within its range of vision. If the horsemen see hostile infantry they charge, if they descry artillery they charge—even hostile cavalry must be charged. The exhausted horses on both sides are halted in front of each other, the public applaud the offensive spirit of the cavalry, and the umpires hardly know what decision to come to. Nobody is blamed but those who have not charged; it is immaterial to consider why the troops have come into their present position, whether for the purposes of exploration, or of security, or of protection: they have charged, and all is well. It would be dangerous to repress this aggressive spirit—which was lacking in 1870—and on which the cavalry must be congratulated; but this part of their training has been overdone, and due proportion has been lost sight of. The duties of the arm, which are varied and important, would not be properly performed unless the attack were limited to those occasions on which a good purpose would undoubtedly be served. As to the strategic idea, its importance is not sufficiently recognised. It is the sole justification of the tactical means employed, and of the strategic movements ordered. To exercise troops in the minor operations of war is another matter, but where masses are manoeuvred a strategic idea and strategic direction are necessary, and by keeping in view the strategic idea the instruction of all ranks is facilitated.—*Avenir Militaire*.

SOME NOTES DURING THE RECENT FRENCH MANŒUVRES IN THE NORTH.

By Major F. H. HOSKIER, 3rd Middlesex Vol. Artillery.

(Continued from p. 1451 JOURNAL R.U.S.I., November, 1897, where the map covering the ground of the manœuvres will be found.)

We now come to the final phase of the manœuvres when the 1st and 2nd Corps cantoned round about Arras were supposed to be a French Army moving south to attack a hostile force. Here are the General Ideas :—

NORTHERN ARMY.

A hostile Army has seized La Fère and Laon, and has invested Rheims. A National Army formed in the north to operate against the troops investing Rheims is in motion towards the south-east, and has reached the railway line from Arras to Doullens. Its first objective is the force reported in observation on the Oise, towards Ribemont. The Northern Army is composed of the 1st and 2nd Corps and the 5th Cavalry Division.

SOUTHERN ARMY.

A hostile Army has seized La Fère and Laon, and has invested Rheims. To the north-west it is covered by an army corps to which has been assigned a cavalry division, and which is cantoned in the direction of Ribemont, on the left bank of the Oise. The G.O.C. investing troops informed that an Army assembled to the north-west of Arras, has been set in motion towards the south-east, sends a second cavalry division to join the covering corps, and orders this force to move towards Arras. He assigns it the following mission : first, to gain touch of the Northern Army ; secondly, to manœuvre so as to retard the advance of this Army, until the arrival of a reinforcing army corps coming from Neufchâtel on the Aisne, and which is advancing by forced marches on St. Quentin, should allow the two corps thus united to assume a vigorous offensive and thwart any ulterior operation against the investing troops.

The Provisional Corps formed for the manœuvres constitutes the covering corps for the Southern force.

Special Ideas.—The situation of both Armies on the evening of the 8th September is as follows :—

The Northern Army has reached the line Arras—Beaumont-les-Loges—Bavin-court. The cavalry brigades occupy the line Bucquoy—Ablainzeville—Hamelin-court—Boyelles.

The cavalry division has gained contact with a hostile cavalry division (1st Division), and in consequence of partial reverses has been obliged to fall back closer to its own army, and occupies the line Vanlx—Vraucourt—Lagnicourt.

In the Southern Army the 1st Cavalry Division is cantoned south of the line Haplincourt—Villers-au-Flos. The division had reached the Cologne Brook, with headquarters at Roisel.

The covering corps, in observation on the Oise, has moved up to the Omignon, with headquarters at Fayet.

Composition of Southern Corps (Provisional) :—

One Infantry Division—12th Division complete from 6th Army Corps.

One Infantry Division	{ 1 Brigade { 145th Infantry of the Line. 9th Bn. Chasseurs-à-pied. 18th Bn. Chasseurs-à-pied.

1st Independent Cavalry Division.

4th Independent Cavalry Division.

With proper complement of Artillery train, etc.

After lunch I mounted the bike and set off for Bucquoy, where I felt pretty certain of finding my friends the 5th Dragoons who now formed part of a Provisional Cavalry Division composed of the brigades belonging to the 1st Corps and 2nd Army Corps. To this division was now attached the whole of the cyclist company, hitherto split up between the two corps and attached to each of their two cavalry divisions. Their rôle at these manoeuvres was purely that of mounted infantry as support to a cavalry division.

At Bucquoy, I found the 5th Dragoons as well as the 3rd Chasseurs, and my friend very kindly invited me to stop and share their dinner at the "Lion d'Or." About 5.30 p.m., six "pelotons" (a squadron and a half) three pelotons from each regiment, left Bucquoy for the front, so my friend was able to procure me a bed vacated by one of the officers at the "Lion d'Or." I went round the billets of some of the men and tasted their soup, which was just brewing—not at all bad—twenty men to a mess, and was introduced to Captain Gérard, in command of the cyclists, the famous inventor of the folding bicycle, an extremely handsome man. From him I learnt that the cyclists numbered about ninety, but were supposed to represent 150. They were men of his own regiment, the 87th Infantry, but quite a scratch lot, many having only joined the company a few days before starting; Captain Gérard, however, said he did not care a bit about a man being a good cyclist; he preferred strong, robust, active men, who were very soon taught to cycle well, and to look after their machines. In the course of conversation he ridiculed the idea of cyclists being used as cavalry, for reconnoitring work, and such like. "Why," said he, "suppose a cyclist comes to a village in an enemy's country, he must go through, a cavalry soldier simply takes to the fields and goes round. Again, supposing he is carrying a message, he is always liable to be potted from a farmhouse or detached building, whereas a cavalryman can go across country. No, the true rôle of a cyclist is that of mounted infantry, to accompany and support cavalry, and occupy important points, villages, bridges, defiles, etc." I cannot say that I entirely agree with Captain Gérard, but merely mention his views on the subject. The cyclists wore red knicker-buckers, blue putties (similar to those of the Alpine troops), a blue double-breasted jacket (like that of our sappers in working dress), with wide turn-down collar. They were armed with the artillery magazine carbine, calibre 8 millimetres (.315 inch), length only 3 feet $1\frac{1}{4}$ inches, range 2,000 metres; and a short knife bayonet, very similar to our own. They were supposed, I believe, to carry eighteen rounds, but had fired on one day 140 rounds apiece, and had had to borrow freely from their friends the cavalry. Captain Gérard seemed to think that on active service they would be able to usefully expend an enormous amount of ammunition. This question of the ammunition supply for cyclists is evidently a point requiring careful organisation. Their baggage was carried in a special "fourgon," which moved with the other baggage wagons of the cavalry division.

After dinner, about 9 o'clock, the "fourier" (quartermaster-sergeant) appeared with orders from headquarters for the brigade. We all got up and remained standing whilst he read aloud the orders. This custom seems to me much better than our casual way of passing the order-book round, as it compels everyone's attention; if there be a point which one may not have quite caught, it is easy to look it up afterwards. The orders were for the brigade, together with the cyclists, to move off at 3 o'clock next morning, *via* Ablainzevelle. This village, I might mention, was the headquarters of the Brigade of Foot (Royal Fusiliers, Royal Welsh Fusiliers, 43rd Light Infantry) at the time of the musical tournament mentioned above, the men being quartered in the villages of Ayette, Douchy, Achiet-le-petit, Achiet-le-grand, Brisancourt, Biefvillers, Béhagnies, Grevillers, Sapignies, Favreuil, Ervillers, Gommecourt, and Bucquoy, in most of which there was hard fighting during the two days' battle of Bapaume in 1917.

The following morning the weather was dreadful, and, having no waterproof, I most reluctantly remained in bed while the clatter, clatter, clatter across the

square reminded me that the troopers from every side were making their way, punctually enough, to the rendezvous. At 7.30, the weather having cleared a little, I started off in the direction of Achiet to try and overtake my friends; but on nearing Achiet station, the rain coming down again harder than ever, I was compelled to return to Arras. However, the day was not entirely wasted, as presently the whole of the 4th Division (54th, 67th, 45th, and 87th Regiments) came "streaming"—in more senses than one—through the village, and I was enabled to get some photographs. They were bound for Bihucourt and Biefvillers, thus treading in the very footsteps of their forefathers of 1871 (Faidherbe's 22nd Army Corps), who, in the first day of the battle of Bapaume, wrested the villages of Achiet, Bihucourt, and Biefvillers from the Prussians. At this time, too, guns began to be heard in the direction of Sapignies and Béhagnies, villages which, it will be remembered, were unsuccessfully attacked by part of the unfortunate French 23rd Corps on the day in question.

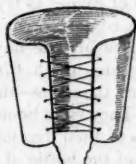
Checks were pretty frequent in the column, and one general officer very rightly swore roundly at some regimental transport wagons for not "doubling up" on the road—where there was plenty of room—during one of these checks. Not once did I see wagons close up during a check, and this was the only time I heard any remonstrances addressed to the drivers.

No sooner had I got back to Arras than the rain stopped and the weather cleared up.

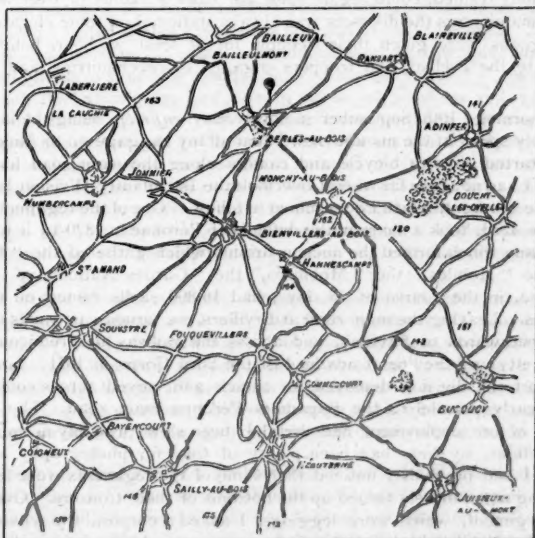
• One very interesting feature of this year's manœuvres was the "Colombier Mobile," or travelling dove-cot, attached first to the headquarters of the 1st Army Corps, and later on to the headquarters of the Northern Army. The pigeons, after being duly trained, could regain their cot from a radius of over 30 miles. During the manœuvres the dove-cot was always stationed on some elevated spot, and the pigeons were given their freedom for at least two hours before being distributed to the cyclists and troopers engaged in reconnoitring and gaining information.

Next morning, 10th September (a lovely day *enfin*!), being the last day I could possibly spend at the manœuvres, I sent all my baggage on to Amiens, and at 6 a.m. started off with bicycle and camera along the main road leading to Bapaume. I had not gone far when I overtook the 1st Infantry Division 1st Corps on its way to the front, which I determined to follow. One of the regiments of this division, the 43rd, took a share in the defence of Péronne in 1870-1; it was their dépôt company which formed the nucleus around which gathered the "Fusiliers Marins," the "Mobiles," the "Mobilisés," the "Gardes Nationaux," and the firemen, who, in the course of 13 days, had 16,800 shells rained on them by the Germans. Leaving the main road at Ervillers, we turned eastwards to Mory, and then southwards to Favreuil, and across the railway to Frémicourt, thus following pretty well the line of advance of the 23rd Corps in 1871. South east of Frémicourt the division deployed for attack and moved across country in a direction nearly parallel to the Bapaume—Péronne main road. The pace of the column before deployment had certainly been slow, probably not more than 2½ miles an hour, so there had been plenty of time for photography and conversation. I had previously noticed that some of the regiments wore leggings, others having none, merely turned up the bottoms of their trousers. Overtaking the 84th Regiment, which wore leggings, I asked a corporal the reason of the difference. "Oh!" said he, "this is how it came about: some of our men wanting to do a little bit of swagger, bought themselves some leggings, so as to look like sergeant-majors!" (sergeant-majors wear a boot like our field service boot) "and our inspecting officer liked the leggings so much, and thought them so practical, that we've all got them now." The legging in question is a much better one than ours. It laces in front just like a lace-boot, and being much smaller in circumference than ours, fits close round the leg, resting on top of the ankle bone,

so that it cannot slide down like our legging on to the top of the heel. It is only about 4 inches long.



In response to questions as to whether they were liked by the men, "Yes, they are capital in wet and cold weather; but liable to heat the feet in dry, warm weather." This exactly bears out my views on leggings; it is *ridiculous* to make a man wear leggings always "in marching order"; let him wear them when it is wet and dirty, at other times let them remain in his valise. It may be interesting to note here that this year laced boots are taking the place of Wellingtons in the artillery, military train, and mounted branch of the sappers, box spurs being still worn as before. This seems a practical innovation. Making my way westward through Villers-aux-Flus, I struck the Bapaume—Péronne road at Beaulencourt, and found the 2nd Corps had also deployed and were moving south-east parallel to the road on the far side of it. Just south of the village of Le Transloy the "fighting line" of this corps was charged on its right flank and in reverse by a regiment of White Cap cavalry; the charge was brilliantly delivered with, I think, two squadrons in front and two in support *en échelon*, and would in all probability have succeeded. As the several squadrons galloped forward,



halted, and then went "fours right" or "fours left," I could not help calling to mind most forcibly the remarks of a recent Russian writer, who observes that this way of training cavalry horses to charge infantry is utterly absurd: they ought to go *right through* the infantry, or, at least, through the intervals between sections, companies, and battalions. At one of the sham fights which took place on the plains of Denain, north-east of Cambrai, in the

years succeeding Waterloo, we read that the cavalry charged *through* the intervals between battalions. However, to continue, the 2nd Corps came to a halt shortly after this, to correct their direction probably, as shortly after, on resuming their advance, they brought up their right shoulders considerably, and the entire corps crossed to the east side of the road between the villages of Le Transloy and Sailly-Saillisel, the attacking lines being pretty well parallel to the line Sailly-Saillisel—Mesnil-en-Arrouaise. There is no doubt that on a modern battle-field it will be the most difficult thing in the world to preserve direction. In the old days, when Armies deployed in view of one another, it was easy enough to say "march on such and such a village," for if they were not sure of *which* village, at any rate they could *see* their enemy. But I am firmly convinced that in the next war all advances after deploying will have to be made by compass bearings—even in broad daylight—and it is only when the enemy's position comes into view that direction will be given on such and such a village or such and such a hill. A modern Army is, in the initial stages of its advance, exactly like a ship at sea out of sight of land.

When the "Cease fire" and "Assembly" sounded, the Northern Army had reached just south-east of the line Sailly-Saillisel—Mesnil-en-Arrouaise—Bus. The advance since deploying had been long and fatiguing, the men having probably covered about three-and-a-half miles across country.

Near Mesnil, the 54th Regiment had piled arms and were cooking coffee. When will our men be taught to shift for themselves like the French? Here is one man grubbing a hole in the ground for his fireplace, another has made a little nest for his fire in a heap of flints by the roadside, here comes another with the canvas bucket full of water fetched from the farmhouse close by. Now the water is put to boil, meanwhile out comes the coffee-mill, and in a trice there is hot coffee for all. Cigarettes are rolled, and soon everybody is happy; but to-day—a most unusual thing with Jacques Bonhomme—coffee has no attractions for some; they are "done." I notice especially some sappers who have evidently had more than enough; they are lying flat on the ground, and completely "off their feed." The terrible weather and long marches of the last few days had at last told its tale on the weaker brethren, who more than filled the ambulance wagons on this particular day. I ought to mention that in one or two companies the experiment had been tried of putting a few raw potatoes in the men's haversacks, with a pot of grease, and thus adding a savoury mess of fried potatoes to the mid-day coffee. It was doubtful if the grease would keep, but I was told the experiment answered perfectly, and that the men much appreciated this novel addition to their fare.

Twenty long miles lay between me and Chaulnes, where I had to catch the train for Amiens. On reaching Mont St. Quentin, a turning to the right took me through the village, and quite close to the spot where the battery of 9-pounders was placed over against the town in 1815; but the ditch and glacis are now so covered with trees that it is impossible to make out the old red brick fortifications.

There was yet time for a few snap-shots, and I took two cuirassiers, and then a final one of an artilleryman near by the gate which was blown in by our sappers in 1815.

After a short rest in Péronne, I continued my way to Chaulnes Junction.

A great many extraordinary estimates have appeared in the daily and weekly Press regarding the numbers present at these manœuvres, some putting the number as high as 75,000! This is utterly ridiculous; at the outside there were probably not more than 50,000 men present, as is easily shown.

1ST ARMY CORPS.

8 regiments of infantry, each of 3 battalions of 500 men each	...	...	...	...	...	=	12,000
Divisional Artillery.—6 batteries to each division; probable strength of each battery of 4 guns and 2 wagons, etc., not more than 70 men.	12 batteries at 70	...	...	...	...	=	840
Corps Artillery.—8 batteries at 70	...	...	...	...	...	=	560

2ND ARMY CORPS.				
8 regiments infantry ..	...	...	...	= 12,000
Battalion Chasseurs-à-pied ...	...	...	...	= 500
Artillery (as above) ...	...	...	...	= 1,400
PROVISIONAL ARMY CORPS.				
Infantry—				
7 regiments of 3 battalions each ...	...	...	...	= 10,500
1 regiment (Provisional) 2 battalions Chasseurs on lower establishment ...	...	...	...	= 1,000
1st Cavalry Division.—6 regiments of 4 squadrons, each squadron about 80 or 90 sabres ...	...	...	...	= 2,400
Horse Artillery, 2 batteries...	...	...	...	= 140
4th Cavalry Division ...	...	...	...	= 2,540
5th „ ...	...	...	...	= 2,540
Provisional „ ...	...	...	...	= 2,540
				48,960
Gendarmerie, Cyclists, Sappers, Military Train, Medical Service, etc., say ...	...	...	...	1,040
				50,000

GERMANY.—Some critics have tried to prove the uselessness of the artillery manœuvres at the Camp of Châlons, but our opinion is that in the present year they have had valuable results in the form of reciprocal instruction between the different arms of the Service. The grand manœuvres are necessary for the education of the higher grades; but if it were a question of abolishing them or the artillery camps, we should prefer to retain the latter. Both have, however, their proper sphere of instruction. In the grand manœuvres it is impossible to decide on the effect of fire, owing to the absence of shells and bullets, but it is not so in the artillery manœuvres. We ought to imitate the example of the Germans in maintaining both. Their plan for the organisation of camps of instruction was elaborated in 1881, and has up till the present cost nearly 100,000,000 francs. For the year 1898 they have devoted 11,000,000 francs to grand places of exercise. Doberitz, the grand exercise place for the Guards, has been allowed 2,162,500 francs for this year. A sum of 12,912,500 francs has been already expended on this place; 5,931,250 on Loburg; 6,447,500 on Elsenborn; 5,437,500 will this year have been spent on the transformation of Lochstädt from an artillery range to an exercise place for the 9th Army Corps. In Prussia a sum of 8,233,750 francs has been destined for increased barrack and drill accommodation, and, in Saxony, 8,075,000. The new exercise ground for the Bavarian Army, at Hammelsburg, is thirty square kilometres in extent, and ranks as the eighth among the twenty camps of instruction in Germany. The largest is that of Coburg, which is 50 square kilometres, and the smallest that of Griesheim, near Darmstadt, which is 4 square kilometres.—*Avenir Militaire*.

ITALY.—The scheme for the mobilisation and war-formation of the revenue officials was lately made public. In their military capacity they are under the army corps commander in whose district they are stationed. On mobilisation, all who are actively employed, with the exception of those on sea, harbours, or lakes, are taken for military duty, from the mobilisation lists of their respective districts. A separate list of the men excepted, as above, is kept for the Minister of Marine. Immediately on a declaration of war, the men who, after inspection, are found unfit for service, are sent to the unmobilised companies, whence the serviceable men are drawn whom they relieve. Then those on any threatened frontier would be placed at the disposal of the commander of the troops entrusted

with the defence, or the commander of the territorial military division for coast defence. The Ministers of War and Finance jointly decide what companies and battalions are to be mobilised. When the mobilisation is over they will be placed in the first or second line of the Active Army, or with the Militia. The heads of the Revenue Department have military rank, the chief inspectors of the first and second classes being colonels or lieutenant-colonels. Each battalion has a staff and from three to six companies, under the command, usually, of an Army officer nominated by the Minister of War. The strength of the whole amounts to about 430 officers and 15,200 men.—*Militär-Zeitung*.

PORTUGAL.—The Mountain Artillery, which hitherto has consisted of four active batteries formed into a brigade, has been re-organised. By a decree of the 12th September, it is composed of six active batteries forming a regiment, under the title of "Regiment of Artillery No. 6." The 1st, 2nd, and 3rd regiments are field artillery; the 4th and 5th are fortress. According to the law of October, 1884, each mountain battery had 1 captain, 4 lieutenants, 1 surgeon, 1 veterinary surgeon, 10 sergeants, 44 corporals, 6 artificers, 3 trumpeters, 130 gunners, 12 horses, and 63 mules. In consequence of the last regulations, the artillery cadres are increased by 1 colonel, 1 lieutenant-colonel, 2 captains, 1 surgeon, 1 corporal-trumpeter, and 1 farrier.—*Revue du Cercle Militaire*.

RUSSIA.—In this year's manœuvres in the Warsaw district, a company of cyclists, consisting of three officers and sixty men, was organised. Twelve infantry regiments of the Army, eleven fortress infantry regiments and four fortress artillery regiments contributed men to form the company. First of all, in consequence of the medical inspection, about a third of the men were sent back to their regiments as medically unfit. Of those who were accepted only twenty-one could ride a bicycle. In the end of May the first ten cycles were received. They were constructed by the artillery, and were too heavy, without being durable, but subsequently thirty-three Gérard cycles arrived; and ultimately the company could perform simple movements tolerably well. It will, however, be necessary to give cyclists more independence and a corporate existence of their own. The Russian company above mentioned carried arms and stores on their cycles, and had likewise a pair-horse wagon to carry extra effects.—*Militär-Zeitung*.

The pupils of the military schools took part in the preparatory manœuvres at Krasnoe Selo, each set of operations being followed by a criticism. The 160 pupils of the School of Artillery were organised as a mounted battery of eight guns.—*Avenir Militaire*.

SWITZERLAND.—The necessity for a re-organisation of the Federal Landwehr has long been felt in an increasing degree. Each of the present ninety-six Fusilier battalions was too weak, and was possessed of insufficient cadres. In addition to this, the men were advanced in years and had not the strength and activity for field service. At the instance, therefore, of the Chief of the Military Department, the National Councils have resolved as follows:—That the Landwehr infantry be divided into 33 battalions of the first ban, composed of 7 years' men between the ages of 33 and 39; and, next, of 33 battalions of the second ban, composed of men between 40 and 45 years of age. Subalterns may belong to the first ban until they are 44 years of age, but may also be transferred to the second ban at an earlier period. The supernumerary officers of the *élite* may be sent to the first ban, all the brigades of which are armed with small-bore rifles.—*Militär-Zeitung*.

Knowledge of the mountains cannot be acquired in a day, and is only a matter of experience. During the past summer, battalions have been conducted through mountain passes up to a height of 2,500 metres, and all was successfully accomplished through the foresight of the commanders. Operations in difficult places and on the snow or the glacier would be rather different, courage, steadiness of nerve, and endurance of cold being required more than on low levels. In Switzerland the raw material for the formation of Alpine troops is not wanting. It is to be found in our various battalions although unused, and if special military training were given we should certainly arrive at as good results as neighbouring countries have done. The Swiss are born mountaineers and could furnish Alpine battalions which on mobilisation would prove capable and experienced. The eight battalions of carabiniers might be replaced by Alpine groups composed of men accustomed to mountain life and subjected to a specific course of training. This simple reform would cost nothing, and would put us in possession of troops capable of meeting the first enemy that might invade us.—*Revue Militaire Suisse.*

NAVAL AND MILITARY CALENDAR.

NOVEMBER, 1897.

- 1st (M). Tirah Expeditionary Force occupied Maidan District.
- 2nd (T). 14th Company Western Division R.A. left Jamaica for the Cape in the "Avoca."
- " " It was decided to occupy Kassala with Egyptian troops.
- 3rd (W). The French troops, which had crossed the Lagos frontier, British West Africa, retired.
- 4th (Th). Buluwayo Railway opened by the High Commissioner for South Africa.
- 5th (F). Orakzais tendered their submission to Sir William Lockhart.
- " " Assassination of the Brazilian Minister of War.
- " " Publication, in the *London Gazette*, of the despatches regarding the operations at the Malakand, and in the Swat Valley.
- 7th (Su). Picket of the Kapurthala Infantry, Kuram Column, reconnoitring in the Khurmana defile, annihilated after a gallant defence.
- 8th (M). 1st Bn. King's (Liverpool) Regiment left Barbados for the Cape in the "Avoca."
- " " Egyptian Railway completed to Abu Hamid.
- " " H.M.S. "Tartar" arrived at Plymouth from West Indies.
- 9th (T). Unsuccessful reconnaissance in force against enemy's position at Sara San, Maidan Valley; serious British losses.
- " " H.M.S. "Venus" commissioned at Chatham for Mediterranean.
- 10th (W). 1st Bn. Border Regiment left Southampton for Malta in the Transport "Jelunga."
- 11th (Th). Successful reconnaissance to the Sara San.
- 14th (Su). Captain (local Major) A. J. Arnold, D.S.O., Royal Niger Company, directed to proceed with a force against Arku, the rebel son of the King of Igarra, W. Africa.
- " " Port of Kiao-Chan, China, occupied by German Sailors and Marines, and evacuated by the Chinese.
- 15th (M). Brigadier-General Kempster's rear-guard action near Waran; heavy British loss, including four officers killed.
- 16th (Tu). Kifi, Arku's stronghold, captured and burned by Major A. J. Arnold.
- 18th (Th). 1st Bn. Manchester Regiment and 18th and 20th Companies Eastern Division R.A., left Southampton for Gibraltar in the "Nubia."

- 18th (Th). 1st Division Tirah Field Force commenced to advance on Bagh.
 " " H.M.S. "Doris" and "Magicienne" commissioned at Devonport for Cape Station.
 " " H.M.S. "Royal Arthur" left Portsmouth for Australia.
 " " French torpedo-boat No. "133" sunk off Algiers, while manœuvring with torpedo-boat flotilla, through collision with "Doudart de Legrée."
 19th (F). Headquarters of Tirah Field Force reached Bagh.
 " " German Contingent of European Force of Occupation left Crete.
 " " H.M.S. "Sirius" left Portsmouth with reliefs for Mediterranean.
 22nd (M). Reconnaissance of Tirah Field Force towards Datoi from Bagh.
 " " News received of mutiny amongst Soudanese troops of Major Macdonald, Usoga, East Africa.
 " " 1st Bn. Manchester Regiment and 18th and 20th Companies Eastern Division R.A. arrived at Gibraltar in the "Nubia."
 " " 1st Bn. South Wales Borderers left Gibraltar for Bombay in the "Nubia."
 24th (W). Reported that a French Expedition of 500 soldiers and 2,000 carriers from Porto Novo had reached Nikki, West Africa.
 " " Reported that the mutiny amongst the Soudanese soldiers of Major Macdonald's force had been quelled.
 25th (F). 1st Bn. Seaforth Highlanders arrived at Malta from Crete in the "Jelunga."
 " " 1st Bn. King's Own Royal Lancaster Regiment left Malta for Hong Kong in the "Jelunga."
 " " Launch of H.M. third-class cruiser "Pomone" at Sheerness.
 " " Launch of first-class cruiser, "Hai-Tien" from Elswick ship-yard for Chinese Government.
 " " H.M.S. "Alert" commissioned at Sheerness.
 29th (M). Sirdar of the Egyptian Army arrived at Massowa.
 " " H.M.S. "Doris" and "Magicienne" sailed for the Cape.
 30th (T). H.M.S. "Porpoise" commissioned at Portsmouth for Australian station.

FOREIGN PERIODICALS.

NAVAL.

ARGENTINE REPUBLIC.—*Boletín del Centro Naval*. Buenos Aires: August and September, 1897—"Naval Power." "The Project for Lighting the Argentine Coast." "Garibaldi." "Questions of Naval Strategy."

October, 1897.—"Smokeless Powders." "A Traveller's Notes." "Questions of Naval Strategy."

AUSTRIA-HUNGARY.—*Mittheilungen aus dem Gebiete des Seewesens*. No. 12. Pola and Vienna: December, 1897.—"Astronomical Questions." "The Weather between La Plata and Cape Horn in July, 1890." "On the English Navy." "The Capsizing of a German Torpedo-boat." "Launch of the German First-class Armoured Cruiser 'Fürst Bismarck.'" "Blake's Air-Pumps." "Bazin's Roller Ship." "The Floating Dock for Havannah."

FRANCE.—*La Marine Française*. Paris: November, 1897.—"Speed at Sea." "Reforms Backwards!" "The Budget of the Navy." "Report of the Budget Commission." "Naval Chronicle." "Extra-Parliamentary Enquiry into the Navy."

Le Yacht. Paris: 6th November, 1897.—“Torpedo-boats and Mobile Defences.” “Yachting Notes.” “The Refloating of Torpedo-boat No. ‘168.’” “Light-draught Gun-boats” (with photograph of New Egyptian River Gun-boat “Sultan”). “The Precursors of Submarine Navigation.” 13th November.—“The Report of M. De Kerjégu on the Naval Budget.” “Yachting Notes.” “The Precursors of Submarine Navigation” (*concluded*). “Technical and Professional Report on the Maritime Fisheries.” 20th November.—“The English Admiralty and the French Administrative System.” “Yachting Notes.” “The Necessary Speed for Ships-of-War” (*concluded*). “The Great Sea-Routes.” “The Torpilleur-de-haute-mer ‘Flibustier’” (with Photograph). 27th November.—“The Navy in Modern Wars.” “Nautical Exhibition at St. Petersburg.” “The Aerial Torpedo.” “The New Armoured Cruiser ‘Montcalm.’”

Revue Maritime. Paris: November, 1897.—“Geometry of Diagrams” (*continued*). “Artificial Ventilation, studied from the point of view of its Application to the Torpedo-Destroyer ‘Condor.’” “Circulation of Water in Water-tube Boilers.” “The Scouting for an Enemy at Sea.” “On the Recognition of Belligerents considered in Relation to Naval War.” “Naval Policy.” “The Influence of Literature on the Development of the Navy.” “The Sea Fisheries.”

Le Moniteur de la Flotte. Paris: 6th November, 1897.—“The Merchant Navy.” “The New Constructions in 1898.” “The Navy in Parliament.” “Hospital Transports.” 13th November.—“The Report of M. de Kerjégu.” “The Navy in Parliament” (*continued*). “Fishery and Ostriculture.” “Colonial Notes.” 20th November.—“The Gift of Invention.” “The Navy in Parliament” (*continued*). “The Personnel of the Crews.” “The Accident to the ‘Tourbillon.’” “Colonial Notes” (*continued*). 27th November.—“The Navy and the Colonies.” “A French Gun-boat on the Bahr el Gajal.” “The Navy in Parliament” (*continued*). “Loss of Torpedo-boat ‘133.’” “Annual Summons of the ‘Inscrits.’” “Colonial Notes” (*continued*).

GERMANY.—*Marine Rundschau.* Berlin: December, 1897.—“Admiral Bouët-Villaumey and His Method of Carrying on the War in the Baltic in 1870.” “The Management of Ships in Thick Weather according to International Regulations for Sea.” “Prussia’s Spar-Deck Corvettes.” “A Word on Storms and Storm Warnings on the German Coast.” “The Murder of Otto Ehlers in New Guinea.” “The Fog on the Newfoundland Banks.”

ITALY.—*Rivista Marittima.* Rome: November, 1897.—“Mahan and Callwell” (*continued*). “Manning the Navy.” “Water-tube Boilers.” “Some Sounding Apparatus of Our Navy.” “The Encounter at Modone: An Episode in the Veneto-Genoese Struggle.” Letter to the Director:—“Plea for an Official Historical Naval Museum.” “Naval Notes: Home and Foreign.” “Notices of Books, etc.”

SPAIN.—*Revista General de Marina.* Madrid: November, 1897.—“The Electric Installation on board the Battle-ship ‘Carlos V.’” “Mechanical Torpedoes.” “Classification of English Ships-of-War.” “Organisation of the Engineering Staff.” “Telegraphy without Wires.” “Night Signals.” “The Entry and Instruction of the Aspirants for the Marine Guard and Cadets.” “The Machinery of the ‘Turbina.’” “The Entrance into the Navy.” “The Squadron of Operations in Cuba.”

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once more." "Deficiency of Cavalry in the Italian Campaign in Abyssinia." 18th November.—"The Army Estimates for 1898." "Parliament and Duelling." "Infantry Fire-Combat." 26th November.—"The Army Estimates for 1898." "The Soldiers' Warm Supper."

Mittheilungen über Gegenstände des Artillerie- und Genie-Wesens. Vienna: November, 1897.—"A Brief Explanation of Researches into the Flight of Projectiles by means of Optic-photography." "Lighting with Acetyl Gas." "Remarks on Hydraulic Brakes with Constant Resistance."

Organ der Militär-wissenschaftlichen Vereine. Vienna: November, 1897.—"The Franco-German War of 1870-71: From Metz to Orleans."

FRANCE.—*Revue du Cercle Militaire.* Paris: 6th November, 1897.—"The International Naval and Military Exhibition of 1900." "The Question of Under-Officers." "A Cossack Officer's Cash Account." "On the Present State of the English Army" (*continued*). 13th November.—"The Duty of Regimental Instruction." "The Question of Under-Officers" (*continued*). "On the Present State of the English Army" (*continued*). 20th November.—"Medical Statistics of the French Army during the Year 1895." "The Question of Under-Officers" (*continued*). "On the Present State of the English Army" (*continued*). 27th November.—"Coast Defence and the Food Supply of Paris." "The Employment of Cyclists in Russia." "On the Present State of the English Army" (*continued*). "The Question of Under-Officers" (*concluded*).

Journal des Sciences Militaires. Paris: November, 1897.—"Instructions to the 2nd Cavalry Division" (*concluded*). "Land, Men, and Arms in War" (*continued*). "General Bourbaki." "Notes on the Scientific Study of Military Geography."

Revue d'Artillerie. Paris: November, 1897.—"Pyrocollodion Powder in the Russian Navy." "Nordenfeldt Quick-firing Field Ordnance of 75 millimetres." "Note on the Attachment of Mitrailleuses to the Cavalry."

Le Spectateur Militaire. Paris: November, 1897.—"Free, Captive, and Navigable Balloons" (*concluded*). "The Grand Manœuvres of the Bulgarian Army in 1896." "The Protection of France on the North-East." "The Order Book of an Infantry Regiment in 1781." "The Colonial Army again."

Revue Militaire de l'Étranger. Paris: November, 1897.—"Austro-Hungarian War Budget for 1898." "Changes of Station in the German Army." "New Arrangement of Territorial Military Districts in Italy." "The Purchase of Remounts for the Russian Artillery." "Abolition of the Russian Regiment of Mountain Artillery."

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GERMANY.—*Militär-Wochenblatt.* Berlin: 3rd November, 1897.—"On the Space occupied by Artillery in Battle" (*concluded*). "The War on the Loire in Autumn, 1870." "English Battles on the North-West Frontier of India." 6th November.—"The Influence of Sea-Power on the Wars of the Nineteenth Century." "Russian Disembarkation Manœuvres on the Coast of the Black Sea in September, 1897." "English Battles on the North-West Frontier of India" (*continued*). 10th November.—"The Influence of Sea-Power on the Wars of the Nineteenth Century" (*continued*). "English Battles on the North-West Frontier

of India" (*concluded*). 13th November.—"The Influence of Sea-Power on the Wars of the Nineteenth Century" (*continued*). "The Empress Augusta Society for German Daughters." 17th November.—"Observations on Extensive Fortresses." "New Q.F. Guns in France." 20th November.—"The Influence of Sea-Power on the Wars of the Nineteenth Century" (*continued*). "New Statute of the Life Insurance Society for the Army and Navy." 24th November.—"The Influence of Sea-Power on the Wars of the Nineteenth Century" (*continued*). 27th November.—"The Influence of Sea-Power on the Wars of the Nineteenth Century" (*continued*). "Towards the Solution of the Attack Problem." "The Prussian Army Veterinary Report for 1896."

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Internationale Revue über die gesamten Armeen und Flotten. Dresden: November, 1897.—"The German Imperial Manœuvres of 1897." "Napoleonic Tactics" (*continued*). "Amsterdam" (*continued*). "The Russian Infantry Exercise." "Twenty four Lessons in Moltke's Strategy." "Military Historical Instances from the Franco-German War of 1870-71." "Tables for Calculating the Flight of Infantry Projectiles."

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Rivista di Artiglieria e Genio. Rome: November, 1897.—"The Marconi Apparatus and the Experiments at Spezia," by Doctor Angelo della Riccia.

RUSSIA.—*Voïennii Sbornik.* St. Petersburg: November, 1897.—"The 20th Anniversary of the Battle of Telich." "The True Meaning of Independent Command in War" (*continued*). "The Preparation of Infantry for Intelligence Duties." "Cossack Problems." "The Fire of Fortress Artillery." "The Promotion of Infantry Subalterns." "On Reducing the Administrative Correspondence of the Army."

SPAIN.—*Memorial de Ingenieros del Ejército*. Madrid: November, 1897.—“Some Data for the Outlines of Defence, Fortification, and Armament of Naval Stations” (concluded). “Balloon Ascents” (concluded). “The Inspection of Railroads.”

Revista Técnica de Infantería y Caballería. Madrid: 1st November, 1897.—“Cuba and the United States.” “Tolstoy and Dragomiroff.” “The Armament of the Cuban Insurgents.” 15th November.—“The Province of Cavite.” “Cuba and the United States.” “Tolstoy and Dragomiroff.” “The Swiss Militia.” “José Vellaba and his Tactical Studies.” “The Natives of the Tropics and Colonial Armies.”

SWITZERLAND.—*Revue Militaire Suisse*. Lausanne: November, 1897.—“The Manœuvres of the 2nd Army Corps in 1897.” “The New Exercise for Swiss Field Artillery.” “The Swiss Cavalry Remount.”

NOTICES OF BOOKS.

Men-of-War Names: Their Meaning and Origin. By Captain H. S. H. PRINCE LOUIS OF BATTENBERG, G.C.B., R.N., A.D.C. 12mo. London: E. Stanford, 1897.

Everybody who takes an interest in naval matters ought to be grateful to the author of this little book, which is a unique and valuable work of reference, in a branch of naval literature which has hitherto had but little or no attention paid to it. To all students of naval history it ought to prove particularly interesting, and the bulk of naval officers will be glad to have a work at their disposal which will give them at a glance the why and wherefore of the names of foreign men-of-war with which they are so often brought into close contact; while it is also sure to meet with a wide appreciation among foreign officers. The appendix to Part I., with its long list of names formerly borne by British men-of-war, which the author has so carefully unearthed, is also well worth a study, and it is difficult to understand how it is that the Admiralty have permitted so many and such famous names as are here arrayed to have dropped out of the Service; Prince Louis has done good service in recalling them to memory, and it is to be hoped that many of our new ships will be found in the future again bearing names which probably but for the author would have sunk completely into oblivion. The book is of a very convenient size, and the printing good, and it ought certainly to find a place in every naval officer's library.

Medals and Decorations of the British Army and Navy. By JOHN HORSLEY MAYO, late Assistant Military Secretary to the India Office. London: Constable and Co., Westminster, 1897.

It is no exaggeration to say that in Mr. Horsley Mayo's two volumes there is given to us the most complete and exhaustive record of all naval and military medals and decorations—other than orders of knighthood—which has ever yet been compiled. It tells us everything there is to know of every decoration regarding which official evidence is to be obtained, from the “Ark” medal issued by Queen Elizabeth in 1588, as an honorary reward to distinguished naval commanders, down to the medal granted by the Khedive this year for the Dongola campaign. There are printed *in extenso* all General Orders, Royal Warrants, etc., relating to their issue, and many of these are extracted from MSS. records, and now see the light in print for the first time. In truth, one has only to glance through the book to realise the extent of painstaking research that was necessary for its production; and the reader of the book will not be surprised to learn that it represents the fruits of thirty years of unceasing toil. To those who knew him it must be a source of bitter regret that the talented author did not live to see its production, but fortunately the work was at his death practically ready for press,

and it has been excellently edited by Canon Mayo (a relative) and Mrs. Mayo (the widow of the late author). To this lady indeed much of the credit for the production of this magnificent book is due, for she was for many years an able helper to her husband in its preparation. In almost every case the medals described are fully illustrated, there being no fewer than fifty-five full-page plates in the two volumes, giving fac-simile reproductions of some hundred and twenty-five medals. The illustrations give both obverse and reverse, and are in every case of full size. In the earlier ones, it being unnecessary to use colour, a photographic process has been adopted, but in all medals issued since the Navy Gold Medal of 1794—the first “Regulation” ribbon instituted—the full mounting and ribbon is shown accurately coloured. The illustrations are excellent, and probably the most interesting plate in the book is No. 33, which shows the Army General Service Medal 1793-1814 and the Navy General Service Medal 1793-1840. The former in this plate is the reproduction of the actual medal of the Duke of Wellington with clasps for Roleia, Vimiera, Talavera, Busaco, Fuentes d’Onor, Ciudad Rodrigo, Badajoz, Salamanca, Vittoria, Pyrenees, Nivelle, Nive, Orthes, Toulouse. This is a superb specimen, for it has no fewer than fourteen clasps, the highest number issued, with the exception of two which had fifteen clasps attached. With the Navy medal more than two hundred clasps were given, but the greatest number given to any single recipient was six, and it is a six-clasp medal that is here represented. Two six-clasp medals are well known in collections, and there may be others, but certainly only a very, very few. In this book reproductions of actual medals have been used for illustration, and, of course, where possible, those showing the finest possible combination of clasps. In this case, however, the author has been imposed upon with a medal and clasps that is on the face of it spurious. The clasps bear the legends: “14th March, 1797,” “Minerve with Blanche,” “St. Vincent,” “Nile,” “Copenhagen, 1801,” “Trafalgar.” It would, in truth, be unique if real, as it combines in an unequalled way Nelson’s greatest achievements, both as subordinate and in command. To start with, no clasp was issued for 14th March, 1797, and it is evidently meant for 14th March, 1795, the action in which Hotham defeated the French fleet, and failed to follow up his victory, and in which Nelson, in the “Agamemnon,” so distinguished himself. Even allowing that this were an error of date, such as might conceivably have occurred in the issue of a clasp, it is very unlikely, for a visit to the Mint, or search through a large collection, will show clasps for the action all properly dated. Again, the second clasp, “Minerve with Blanche,” is undoubtedly spurious. The clasp was conferred for Nelson’s action of the 19th December, 1796, when in command of the “Minerva,” 38, and having in company and under his orders, the “Blanche,” 32, he attacked two Spanish frigates, capturing one, the “Santa Sabina,” 40. For one or two reasons, unnecessary to go into, this was one of the most interesting single-ship actions of the war. The clasp was given, inscribed “Minerva, 19th December, 1796,” or “Blanche, 19th December, 1796,” according as the recipient belonged to the “Minerva” or “Blanche”; and as a matter of fact only two of the crew of the “Blanche” survived to claim the “Blanche” medal and clasp. Moreover, where two ships names are on a clasp, it is always in the case of single-ship actions, the second being the name of the enemy’s ship captured—such, for example, as “Shannon with Chesapeake.” It may savour, perhaps of hypercriticism to dwell at length on an error of this description, but it is necessary to do so, for no medal extant has been so much forged as the naval general service medal referred to; and as this work will undoubtedly be the most important guide to the medal collector of the future, in further editions a genuine medal should be substituted. Such an error—and that only in the illustrations—detracts, however, not one whit from the enormous value of the book, which undoubtedly takes rank as the finest work of its kind that has appeared, and to unseat it from this pride of place

will be a difficult task for any future writer on the subject. To the ordinary Service reader the book is of the most intense interest ; to the numismatist who make medals his specialities it is invaluable.

The Story of the British Army. By Lieut.-Colonel C. COOPER KING. London : Methuen and Co., 1897. Demy 8vo., Price 7s. 6d.

Many rash attempts have before this been made to write a history of the British Army, but it is reserved for Colonel Cooper King, a Staff College graduate, and an ex-Professor of the Royal Military College, to lay before the public a book containing, probably, more errors than all the efforts of his predecessors put together.

With the opinions which authors choose to express, we have no concern ; but it is difficult to conceal a smile at Colonel Cooper King's estimate of the capacity of the Duke of Wellington, p. 244 : "No careful student of the art of war, no foreign military critic, certainly, has ever classed him among the greatest generals, or thought his campaigns worth studying seriously"! This is somewhat bold from an author who, on pages 269-270, confuses the future Duke of Wellington with his brother, the Marquess Wellesley ; on page 78, makes the extraordinary statement that 12,000 French officers were taken prisoners at Blenheim ; and on page 259 estimates the French losses at Inkerman, in killed and wounded, at 130 !

Little reliance can be placed on any portion of the book. The references to the costume of the Army from the year 1740 are frequently incorrect, or out of date by ten years or more. The numbers borne by regiments are, in the generality of cases, incorrectly given, scarcely a page in the latter portion of the book being without a blunder. Here are two instances amongst many hundreds : P. 275, line 12, it is stated that the 7th and 8th Regiments were in India in 1817, whereas the former was with the Army of Occupation in France, and the latter in Ireland. P. 276 states that the 57th Regiment was with Lake at Bhurtapore, when, as a matter of fact, it was in Gibraltar.

How interested the old officers of the Bombay Fusiliers, the "Old Toughs," will be to find their regiment described, on page 165, as the "Bengal Fusiliers" ; and the King's Own Scottish Borderers to learn, on page 263, that their regiment was originally the 21st. But, in order to correct the many ludicrous mistakes which occur throughout the book, it would be necessary to re-write it from beginning to end. To the military student the book is valueless, while to the general public and schools it is worse than useless, on account of its many misstatements and general inaccuracy. Except the three portraits, the less said about the illustrations and the plans the better. The plates of uniforms—take for example that on page 260—are mere caricatures.

The Royal Navy List Diary and Naval Handbook for 1898. By Lieut.-Colonel F. LEAN, R.M.L.I. London.

This useful diary and handbook is primarily intended to form an annual record of the progress and development of the Royal Navy, and is issued in conjunction with Lean's "Royal Navy List." It contains, in a convenient and concise form, a great deal of information, which many officers will find very useful for purposes of reference ; among other matters is a specially-written article by Professor J. K. Laughton, descriptive of the naval progress of the past year, and great care has also been taken to add the latest statistical and comparative tables. The book will probably prove as popular as Colonel Lean's "Navy List" has grown to be.

THE HEALTH OF THE BRITISH TROOPS IN INDIA AND OTHER FOREIGN STATIONS.

By Major-General R. L. DASHWOOD.

Friday, 19th February, 1897.

Lieut.-General Sir JAMES HILLS-JOHNES, V.C., G.C.B., R.A.,
in the Chair.

IT is not intended on this occasion to touch on the general health of the British troops in India or elsewhere, but to deal with one question only, namely, the enormous increase of venereal diseases both numerically and in virulence, the results, causes, and remedy; and to show that this increase is most marked since the suspension in India and other foreign stations of what are commonly known as the C.D. Acts.

In India in 1872, and for several years subsequent, the regulations under these Acts were well and generally carried out, and the result was a comparatively low figure of admission into hospital for those diseases, not exceeding a ratio of 200 per 1,000 of strength. But about the year 1877 these regulations were tampered with and relaxed, and still more so about 1883 under Home authority, with a corresponding rise in the admissions. On the 5th June, 1888, the Acts were suspended altogether. These fluctuations between 1872 and 1888 gave a handle to the opponents of these preventive measures to assert that the Acts had proved of no avail in reducing disease. Now, if these regulations all through the period above mentioned had been carried out in a uniform manner, then the opponents of these sanitary measures would have had (to judge merely from the figures) some grounds on which to deny that they had been of any use; but as I have shown the contrary was the case, their deductions fall to the ground altogether.

The Annual Report of the Sanitary Commissioner (table form) which is annexed, shows, as summarised by the commissioner himself, that of the 70,642 British soldiers in India on the 15th July, 1894, only 37 per cent. had escaped venereal disease, while 63 per cent. had at some time or other of their service contracted it in one form or another. That 71 per cent. of the men had been admitted into hospital for some form of venereal disease since their arrival in the country. That with the decade ending with that year the average rates of admissions per 1,000 was 423, as compared with 244 the previous decade; of the 1,808 invalids sent home in 1894 there were 300 whose diseases were directly caused by

venereal. In the year 1887—the last whole year the Acts were in force—the admissions into hospital per 1,000 of strength for venereal disease were 361, and the average numbers constantly sick were 1,467. In 1888 (the date the Act was suspended) these rates were respectively 370 and 1,712. In 1889, 481 and 2,435. In 1890, 503 and 2,480. In 1891, 400 and 1,994. In 1892, 409 and 2,039. In 1893, 449 and 2,568. In 1894, 511 and 3,064. In 1895, 536 and 3,164. So that since the abolition of these Acts in India these diseases have increased to a very alarming extent, and since 1872, when the rate of admissions was 179, have nearly trebled.

It will be observed that in the above figures the admissions for the years 1891 and 1892 are considerably less than for the two preceding or the years following. The reason of this is, that when the dreadful results of abolishing these sanitary regulations became apparent, in many stations preventive measures were carried out by the subordinate authorities on their own account.

But certain persons having brought that to the notice of the highest Indian authorities, they, in face of the instructions from Home, were obliged to order that such measures should cease; whereupon the admissions rose largely.

The Principal Medical Officer in the report of 1895 states that the syphilitic cases were of a most virulent type, and he also points out that the figures do not give the total amount of men affected, as some were treated by injections of mercury without being admitted to hospital; he further says that the health of men attacked with the above class of disease was markedly impaired, and he winds up by saying that the efficiency of the Army is most seriously affected by syphilis and its concomitants. In 1895, the date of the last returns (*vide* annexed table), the admissions amounted to 36,681; the ratio per 1,000, 536·9; men constantly sick, 3,164 (nearly four regiments); ratio of ditto per 1,000 of strength, 46·21; invalided to England for venereal causes, 321; and there were 15 deaths from secondary syphilis; total number of men invalided was 1,663, so that the numbers sent home for venereal were nearly a fifth of the whole.¹

As regards other foreign stations, since the abolition of the Acts, diseases of this class have generally increased. For the years 1885-7 in the West Indies the admissions were per 1,000, 236; in 1895, 332. In China and the Straits for same period but 164. In 1895 approximately 513, viz: China, 403; the Straits, 623 (an enormous increase). The figures for admissions at Gibraltar in 1895 stand at 316.

In the above figures, both for India and elsewhere, invalids from these diseases consequent upon syphilitic taint or the results of gonorrhœa affections are not included. As regards our naval forces they, of course, suffer considerably by the doing away with all these sanitary rules on foreign stations, where they may happen to be. Now, with reference to troops on the Continent, where very careful sanitary regulations are car-

¹ The figures not in the tabulated forms are compiled from the Army Medical Report (decimals are omitted), but they are practically correct

ried out affecting these diseases, the admissions into hospital per 1,000 for venereal diseases is as follows :—Prussia, 26·7; French soldiers, 43·8; Austrian, 65·7; Italian, 104; a startling contrast indeed, and an object-lesson to ourselves, that with proper regulations efficiently put in force these diseases can be reduced to a small figure as compared with ours both at home and abroad. In 1895 the admissions in the United Kingdom were 195. The reason why this form of disease is more prevalent in a foreign station than at home, or in a British colony, is obvious.

It has never been contended by anyone that these sanitary measures were perfect, either in their conception, or the way in which they were administered; but what those who advocate them hold, and rightly hold as beyond all doubt, is that they have largely reduced these diseases, and if more generally and stringently carried out would have a still more beneficial effect.

As regards my own experience, when I was at Poonah in 1882, two companies of my regiment were on detachment at Satara, where for financial reasons there was no Lock Hospital or other means of carrying out sanitary measures; the consequence was that in two months, with the exception of a few married men, almost every man was admitted into hospital for venereal disease. At Poonah, where regulations were in force, the admissions were a mere fraction.

Now, I unhesitatingly say with reference to these Acts, that the figures and facts we have to-day before us have entirely refuted the allegations of those who deny that these sanitary regulations have been of any use in reducing these diseases, or, as they put it, "have been a failure."

Further, the assertion that these diseases, have not increased at a greater ratio since the total abolition of all regulations, than before that period, is entirely disproved.

As additional evidence that these diseases have largely increased since the entire suspension of these sanitary measures, the annexed table, No. IV., shows that for the period of seven years subsequent to the Acts being absolutely done away—viz., from 1889 to 1895—the average admissions per 1,000 of strength were 469, as against 311 in the seven-year period before their total suspension—viz., from 1881 to 1887.

The year 1888 is omitted, as the regulations were only in force for about half that year.

At Calcutta, in 1869, the year the C.D. Acts were first enforced there, the admissions into hospital per 1,000 of strength for venereal diseases were 250. Prior to that date regulations had been carried out more or less all over India by the regimental and local authorities, but not of a really rigorous nature.

In the years 1873, 1874, and 1875 the admissions were only on an average 87 per 1,000, to which syphilis contributed only thirteen.

In 1883 these Acts were suspended more or less in Calcutta, when the average yearly admissions for 1883, 1884, and 1885 rose to 390. This

shows how potent to decrease disease these regulations are if properly carried out.

A convincing experiment was tried by the Government in 1885. Doubts having been expressed as to the efficacy of the Lock Hospital system, the military authorities determined to close a certain number experimentally. The result, as described by the Surgeon-General for India, was as follows:—13,443 men were left without protection, and, in consequence, there were in every 1,000 men 192 more admissions for venereal disease than the average of the preceding ten years, during which time they were protected!

It is quite possible that the youth of the soldiers in India in these days and the fewer men who are allowed to marry in comparison with thirty years ago, may have had a tendency to increase disease to a certain extent, but by no means to account for the very large increase that has taken place since about 1877.

It is a well-known fact that venereal disease is much more prevalent of late years in the Native population in India than thirty years ago, and also that syphilis now forms a larger proportion of venereal, and is in addition much more virulent, which is sure to be the result of absence of early treatment.

Now, gentlemen, the opponents of these protective regulations have based their opposition to a certain extent on the allegation that these Acts have more or less failed, in that disease has increased in the periods in which they were enforced, and has not increased at a greater ratio since they were abandoned. Letters have been written in the papers, and leaflets and pamphlets have been circulated, trying to prove their statements on this head, some of them containing blunders of a rather unscrupulous character.

I will take one as a sample—a letter that appeared in the *Times* of last Thursday week, written by a Mr. Maurice Gregory, who describes himself as the Secretary of the Friends' Association for Abolishing State Regulation of Vice. I think a far more appropriate title for this society would be: An Association for Aiding the Unrestricted Practice of Vice, and the Propagation of a Loathsome Disease. Well, the writer of that letter, after referring to a certain Parliamentary paper, says that it shows "that (in the eighteen years) from 1873 to 1890 (during the operation of the C.D. Acts in India) the figures rose from 167 per 1,000 to 504, an average yearly increase of 14 per 1,000 of strength; and that since abolition the rise has been much lower, under 4 per 1,000." Now, these Acts were entirely abolished on the 5th of June, 1888, by telegraph from Home authorities. Allowing even for a short period to elapse before the orders were carried out all over India, or even for there being at some few places local regulations carried out *sub rosa*, Mr. Gregory had no right whatever to include the two years 1889 and 1890, years when the admissions jumped up very much, in the protected period, which he did, and so entirely vitiated his argument. The sum, if made out properly for the eighteen years prior to total

abolition, shows an average yearly increase of admissions of between 9 and 10 per 1,000; for the seven years that have elapsed since the Acts were abolished an average yearly increase of 25 per 1,000—25 as against 4, Mr. Gregory's figures! Moreover, it must be borne in mind that about 1877 and 1883 these regulations were tampered with and relaxed, and that in the important period since 1888, both in 1891 and 1892, the new Cantonment Acts were in force, which gave some protection, but were abolished in 1893 by orders from Home; also that regulations were carried out here and there by local authorities on their own account.

Two other weapons on which our antagonists rely to prove their contention that the Acts failed are: one, the report in 1893 of the Army Sanitary Commission, a more or less permanent body, which sits in London; and the other, a statement made in the House of Commons in 1894, by Sir H. Campbell Bannerman, when Secretary of State for War.

As regard commissions generally, it has happened I believe before now, that a commission has been appointed, not to get at the whole truth of anything, but to stave off all awkward questions; in that case the members were carefully selected, with the expectation that their report would suit the Government of the day politically, and with the hope that they, the members, would not prove so disappointing as the prophet Balaam did to Balak. Well, this commission in its report started by saying, that it was confidently expected that when these sanitary measures were first introduced, that they would reduce these diseases to a mere fraction; and because that was not altogether the result, therefore, that they had been a failure; and they go on to say that under these circumstances they cannot recommend that the compulsory hospital system should be re-established as likely to be of any sanitary value whatever.

Now, I believe we have in London a very efficient Police force; nevertheless, a certain amount of robberies, burglaries, and even murders, take place, nor are the perpetrators always found out. Well, you might just as well say, because the London Police are not able altogether to prevent crime, that, therefore, they should be done away as of no use.

Then the commission, as a remedy, advise that voluntary hospitals should be established. Now, voluntary hospitals have been found in India to be of very little use, as women did not go to them until they were in such a bad state as to be unable to ply their trade. Then they recommend as a panacea for their evils that the soldiers should be provided with more employment and amusement.

That is all very well, but I dispute the statement that employment or recreation is going to alter a man's nature. No doubt employment and recreation are very good things for a soldier, and he has a good deal of it in India, and he is able to get some sport there which he cannot do here. That may tend to a man's general health, but I think it would be a very difficult thing to argue that a man in sound and good health would be more likely to be an abstainer than a man in ill or in bad health. At the time this commission made the report the figures were staring them in the face—that, taking the four years since the abolition of those Acts and comparing them with the four years prior to the abolition, the average

total increase of admissions for those four years amounted to 102 per thousand. I am unable to understand how those gentlemen with those facts and figures before them could have come to the conclusion they did. As to the other statement which our opponents have put forward a great deal, the declaration made by Sir Henry Campbell Bannerman, when he was Secretary for War, in the House of Commons in 1894, Mr. Jeffreys, who has always taken a great interest in the subject, made a speech, and he produced some figures showing a large increase of disease in India. Sir Campbell Bannerman in his answer in regard to India ignored those figures altogether, but he said he had taken the very best advice possible, and he had come to the conclusion that these extremely rigorous and restrictive measures had not when they were in force had the effect of materially reducing the disease, nor when they were abolished had the disease materially increased. I take exception to Sir Campbell Bannerman's wording on that occasion as rather disingenuous, because he was in office at the time when in 1883 these measures were more or less tampered with and relaxed, and were not either very restrictive or particularly rigorous. From 1889 to 1893, shows an increase per thousand of strength over the five years previous to the Act, of 117; that is to say, nearly 12 per cent. I suppose what amounts to a material increase may be more or less a matter of opinion, but I think probably most of you will agree with me that 117 in a thousand was a material increase; and I am inclined to think that even Sir Campbell Bannerman himself, if his taxes had been increased 12 per cent., would have thought it was a very material increase indeed.

Now, to go back for a moment to the figures before us. The figures, as they stand here, are, goodness knows, bad enough, whichever way you take them, and disclose a fearful state of things. But there is a good deal behind. Of course, we are aware that there are a number of men out there who have been discharged from hospital who are able to do their duty in peace-time—some of them, I dare say, attending hospital (outside patients); and we may be perfectly sure that a large number of those men, if they had to bear the strain of active service, would break down at once. We have had instances of that already in Burmah and in Chitral, where a number of men failed and were unable to do their work. With reference to the question as to the unfitness of a large portion of men who are nominally well, but would in reality be of no use on service, and only crowd the hospitals, I will read you an extract from a statement of a distinguished medical officer, who has just returned home from India, and is now in an important position in England. He was out in India until the end of 1896. "My opinion, based upon my own experience of the numbers who are constantly affected with venereal diseases, and from my own experience in various districts in India, I have no hesitation in stating as a fact that during the time I was P.M.O. of those districts 50 per cent. of the sick in hospital were venereal cases. Most officers, both military and medical, are agreed that the abolition of the C.D. Acts has brought about this lamentable result; and I have also no hesitation in saying that, in my opinion, if a body of troops were

inspected in India for active service over 33 per cent. would be rejected at starting. . . . And no one can estimate the fearful result on future generations of the ill-advised measures taken in opposition to the pronounced views of those best qualified to judge." I do not think it is necessary to dilate particularly any more upon that point. The evil is so frightful and so serious, that I think there is no necessity in saying anything more about it. It must be patent to anybody with a grain of sense. The other day a distinguished officer wrote to the *Times*, and suggested, with regard to a plan of making the regiments at home and regiments abroad fit in, that they should reduce some of the fifty-two battalions in India. I think the fifty-two battalions in India have pretty well reduced themselves as it is. There is more behind still. A great many of the men in India who die of various diseases no doubt succumb because their constitutions have been undermined beforehand by the results of these diseases.

Then we come to the financial question, which is not by any means a small one, because I believe that every man who goes to India as a soldier is supposed to cost £150. Of course, if men go out, and after a very short period of service return again, it necessarily must be a large expense. Now, I wish to touch upon a point which is not the least in any way, and is quite as important possibly as the state of the Army in India, or any other foreign station—that is, the effect upon the population at home. You have seen by these returns that some three hundred odd men come home every year with venereal diseases, and everybody knows that venereal disease which would invalid a man in ninety-nine cases out of a hundred would be of the very worst type. A number of these men come home, some of them invalided, and some of them are discharged, and some of them are in too dreadful a state to be discharged, and are sent to Netley Hospital. I have seen an officer who has to do with that hospital, and he assured me that the sights there are perfectly appalling, that some of the wards are living charnel houses, and that the men there who are attending the patients have even to have separate clothes. A number of those poor wretches go to hospital in Netley, and leave it only for an early grave. Others, of course, are patched up, and are let loose upon the population at home. There are a large number of men now who come home not invalided who are discharged, and they are more or less tainted. These men, of course, go about the population, and you must remember that in these days it is not the old soldier of forty or so who comes home; but it is the young men under thirty, and these men marry, probably most of them, and then their offspring are tainted, and innocent people suffer, and their partners suffer also. No doubt many a mother has bid good-bye to her boy when he has gone on foreign service, a boy in health and spirits and with all the vitality of youth; and he has returned to her in a year or two, ruined, and broken-down for life. There was a very excellent letter in the *Times* not long ago, written by Mr. Arnold White, which called attention to the fact that we need not brag so much about the increase of our population and sneer at France, because we produce a large number of people born of diseased parents, people who may be called the unfits. We all know what the disease is. These are

the deformed, stunted, imbecile, rickety children, and grown-up persons you see around you any day everywhere; and if this sort of thing is to go on for another seven years, heaven knows what will happen! By that time the whole Army in India and other foreign places will be diseased, racial degeneration will set in, and we shall be sapping the manhood of the country; and the old story we heard at school, that one Englishman was equal to three Frenchmen, will have to be reversed; and it will be, that one Frenchman is equal to three diseased, saturated Englishmen.

I should like for a moment to dwell upon the causes of this disgraceful state of things, which is really a disgrace to the country at large. Of course, primarily it is caused by the clamour of a certain band of people (of whom I believe the high-priest is Mr. Stansfeld), who oppose these regulations on morbid sentimental grounds—grounds which are entirely at variance with the dictates of reason,—people who have no care for, and entirely ignore the welfare or health of the present or future generations—future generations of innocent people—and who appear to glory in the fact that they are free-traders in certain horrible diseases. Of these misguided people, the most noisy and illogical belong to the opposite sex. They are pleased to describe our efforts to mitigate these evils—efforts which have been attended with great success—as the legalisation of vice and State aid to vice. I think it would be very much more fair to describe them as attempts to minimise the evils resulting from vice. It is not an extraordinary thing that there should be among us at the present time a party of faddists. I believe we always have faddists, and I dare say we always shall; but the surprising and deplorable thing is that the Government should have given in so abjectly to these people as they did, that they should have shown so little moral pluck and so little back-bone. I declare I do not think it is too strong a thing to say that those at that time who were responsible for the abolition of these Acts—both the Government and their supporters—were guilty of no less than criminal folly. I say that an enormous amount of human suffering and misery lies at their door. I have no doubt that the surrender of the Government on that occasion was to a large extent influenced by political reasons. Votes! Votes! But surely it is high time that this question was lifted out of the quagmire of party politics, or any politics, and treated on its merits, in a reasonable manner apart from sentiment. If the majority of the House of Commons on this matter would only be men, and act as men, then there would be no more trouble, and these agitators would soon be snuffed out.

Now, I wish for a moment to refer to another set of persons who hold particular views. I allude to the anti-opium people. The anti-opium people made a great clamour here, and the reasons they put forth were very much of the same description as those advanced by our opponents in regard to the matter we are discussing to-day. They, moreover, got a resolution passed in the House of Commons in accordance with their views, but the Government stood firm—the Indian Government were firm, and the Home authorities declined to act upon it. It is true

they sent a Commission out to India, which I think was a rather useless expense, and the result was that the bottom was knocked out of the agitation in this opium business; and we do not hear anything more from those people, and if we did no one would pay the slightest attention to them. The reason why the Government at that time stood firm was, that to have acted on that resolution would have meant an enormous deficit in the finances of India. It is a thousand pities that in 1888, when this abolition of the Acts came on, they did not show the same bold front; but I fear, gentlemen, that it is only too true that John Bull has more care for his British pocket than the health or welfare of his fellow-countrymen! After these resolutions were passed, very little was done in the House of Commons. Some of the members took an interest in the matter, and had the courage of their opinions, among whom were Major Rasch, Sir Richard Temple, Mr. Jeffreys, and others; but they did not get much change, and the answers they got were more or less shifty. What did the Indian Government do? The Indian Government was exceedingly weak, and at the end of 1882 they sent home a despatch asking for permission to altogether abolish these Acts. The Secretary of State for that time permitted the Governor-General out there, and his Council, to suspend some of them; and the result was, as you will see in the Returns, a very large increase in these diseases at once took place. Then, in 1888, it is reported in *Hansard* that the Government of India before they got instructions from Home to abolish these Acts suspended them on their own account, because they said the "laws in India must be enforced according to the moral and religious sentiments prevailing in England." I think that is what Mr. Rhodes would call "unctuous rectitude." The fact is, that we in this country are on these matters the most consummate hypocrites and the most mealy-mouthed imposters. Other nations look these evils in the face, and do their best to mitigate them, and with some success, as you have already seen in the enormous difference in admissions between Continental troops and our own. We, on the other hand, stick our heads in the sand, as ostriches were once supposed to do, and we pretend to see nothing at all. We control and regulate in the bazaars in India the sale of alcohol, poison, and opium, but we allow the very worst poison to be sold without any restrictions whatever. People who are suffering from certain infectious disorders have their liberty curtailed—we do not allow a woman to go about propagating smallpox, but we allow her to propagate a very much worse disease without let or hindrance. It is not generally known in this country by a great many people, unless they have been to India, what the status of these people is there—the women who get their livelihood by a certain means: they are a caste. It is hereditary from time immemorial, and their profession is not considered dishonourable. Surely, under these circumstances, there is no reason why people of that sort should not be put under restrictions. Now, I think it has been generally admitted that no man has a right to find fault with anybody or anything unless he is provided with a remedy. I have a remedy which I will put before you in a minute or two; but, before I

do so, I should like to refer to a remedy which appeared in an article in the *Contemporary Review*—an article which appears to me to be a farrago of nonsense, and which puts forward theories altogether contrary to reason and experience. I should say from internal evidence that that article was written by a woman. However, whoever wrote the article, if it was a woman, she being a woman, and not a man, has no right to make the recommendations she does, because she cannot know what the instincts and passions of a man are; for in all animals, both human and otherwise, the male is the pursuer. This article in the *Contemporary Review* recommends that British soldiers should be taught to be continent; and that the lads who are training at Sandhurst for officers should learn how to teach their men to be chaste. That is what it amounts to. I really think that a more ridiculous and absurd proposition could hardly be conceived. How is it possible that a large number of young men who are not allowed to marry can possibly nullify and control entirely the very strongest natural instinct that has been implanted in them? Of course it is utterly impossible. We must take human nature as it is and make the best of it, for we cannot alter it. You cannot expect a man who enlists in the Army to become different from what his brother is, or, as a matter of fact, any young man; because I believe, as far as human nature is concerned, there is very little difference between the son of a duke and the son of a dustman.

With regard to my remedy. My remedy is, of course, that regulations of a very rigorous and strong description should be once more carried out: that the Government of India should be given a free hand. As a matter of fact, these regulations were never absolutely perfect or uniformly carried out. The orders that went from the Government were of a very general nature indeed, and even the orders that were given from the subordinate Governments, Bombay, Madras, and Bengal, generally left the thing more or less to the cantonment authorities to enforce. In some places they were carried out very well, and in others indifferently. No House of Commons vote is required to do this. I believe that the present Government is quite aware of the alarming state of things that exists, and are very willing to do their best to put an end to it. They last year appointed a Departmental Committee to report on the whole matter, and I have not the slightest doubt that their report will be an exceedingly good one, from the fact that the men on that Committee are not men of putty. Looking at the matter from merely a political point of view, apart from anything else, it appears to me that if the Government only have the strength, which with a majority of 146 they have got, to give the Indian Government a free hand to make what regulations they choose, and hold general officers and commanding officers responsible that those rules are properly carried out, in the course of two or three years this disease will be brought to a mere fraction. They are not likely to go to the country before three or four years. And by that time the fact of the good that will have been done will have become so patent, that the people of this country will pause before they want to go back again to the frightful state of things now existing.

In conclusion, gentlemen, I hope that this meeting will be produc-

tive of some good—that it will bring home to the people of this country the frightful magnitude of the evils which this seven years' policy of fatuous folly and cruelty has brought about; that it may tend to inaugurate a new *régime* in which these matters shall be treated on a basis of humanity and common sense. But before that is possible, it is absolutely necessary that the majority of those people in this country who directly or indirectly have any part in the ruling of it, or who are in any way in a position to lead public opinion, or influence others, that these people, I say, must divest themselves of their garments of cowardice and cant, and don those instead of honesty and courage.

TABLE I.—RETURN TAKEN FROM THE ANNUAL REPORT OF THE SANITARY COMMISSIONER WITH THE GOVERNMENT OF INDIA FOR 1894:—

Corps	Strength on 15th July, 1894	No. of Men who, since their arrival in India, have had a first admission for		No. of Men who, since their arrival in India, have been admitted into Hospital for			No. of Men who have never had any form of Venereal disease.
		Primary Syphilis	Secondary Syphilis	Gonorrhœa	Any form of Syphilis	Other Venereal diseases	
Bengal ...	44,372	9,187	3,232	11,990	12,427	7,718	16,653
Madras ...	13,486	2,941	1,217	3,121	3,851	1,930	4,979
Bombay ...	12,784	2,822	972	3,572	3,614	2,039	4,615
Total ...	70,642	14,950	5,421	18,683	19,892	11,687	26,247

TABLE II.—TABLE SHOWING THE PREVALENCE OF VENEREAL DISEASES OF BRITISH TROOPS IN INDIA IN THE YEAR 1895. COMPILED FROM THE ARMY MEDICAL REPORT OF 1895:—

Diseases		Admissions	Ratio per 1000 of strength	No. of men constantly sick	Constantly Sick Ratio per 1,000 of strength	Deaths	Invalided to England
Primary venereal sores.	Primary Syphilis ...	12,208	178·7	1,115·18	16·32	—	—
	Simple venereal ulcers	4,565	66·8	374·95	5·48	—	—
Total Primary Disease		16,773	245·5	1,490·13	21·80	—	—
Secondary Syphilis...		5,929	86·8	603·79	8·84	15	321
Gonorrhœa ...		13,979	204·6	1,070·92	15·67	—	—
Grand Total...		36,681	536·9	3,164·84	46·31	15	321

Taking all these forms of venereal disease, the ratio of admissions in 1895 was in excess of the previous nine years' average by 127·6, and the constantly sick ratio by 14·39.

Of the 1,663 invalids sent to England, secondary syphilis furnished 321 cases, and of this number 119 were finally discharged from the Service.

TABLE III.—RETURN OF FIGURES TAKEN FROM THE ARMY MEDICAL YEARLY REPORTS FOR INDIA :—

Year	Total admissions into hospital for venereal	Average number constantly sick with venereal	Admissions into hospital for venereal. Rates per 1,000 of average strength
1887*	20,635	1,467	361
1888†	23,507	1,712	370
1889‡	31,332	2,435	481
1890‡	31,160	2,480	503
1891**	24,695	1,994	400
1892**	25,741	2,039	409
1893 §	31,605	2,568	449
1894 §	36,704	3,064	511
1895 §	36,681	3,164	536

* The last year Act was in force whole year.

† Act abolished 5th June.

‡ Act abolished.

** Sanitary measures carried out at some stations.

§ All regulations and sanitary measures stopped.

TABLE IV.—RETURN TAKEN FROM THE YEARLY ARMY MEDICAL REPORTS, SHOWING THE AMOUNT OF VENEREAL DISEASES IN BRITISH TROOPS IN INDIA FOR THE SEVEN YEARS FROM 1881 TO 1887, DURING WHICH PERIOD THE C.D. ACTS WERE MORE OR LESS IN FORCE :—

Year	Admissions into hospitals for venereal	Constantly sick with venereal	Ratio per 1,000 of admissions of strength for venereal
1881	13,136	863	260
1882	13,397	975	265
1883*	13,242	971	270
1884	14,362	1,112	293
1885	17,580	1,134	342
1886	21,275	1,493	389
1887	20,635	1,466	361

The average ratio per 1,000 of admissions into hospital for the seven years 1881 to 1887, when the Acts were in force, is 311. The average ratio per 1,000 of admissions for the seven years 1889 to 1895, when the Acts were *not in force*, is 469. This shows an *increase of 158* per 1,000 in the seven years since Acts were abolished over the seven years prior to abolishing of Acts. There is a difference of 276 per 1,000 between the years 1881 and 1895; since the former year the admissions have more than doubled.

* Regulations more or less suspended.

Brigade-Surgeon-Lieut.-Colonel W. H. CLIMO, M.D. (retired):—Before the general discussion takes place on this lecture I desire to make a few observations, because my views entirely coincide with those of General Dashwood as to the baneful consequences of the abolition of the Contagious Diseases Acts in India. I have requested permission to read these remarks, so as to state my views with moderation and to avoid contention. All I ask is that both sides of the question may be carefully examined. General Dashwood has brought out certain startling facts. Briefly summarised, they show that the admission-rate of venereal diseases in 1895 has trebled as compared with the 1872 rate, and that the average admission-rate of the seven years' period 1889 to 1895 is 158 greater than in the seven years' period 1881 to 1887, the Acts being suspended in 1888. I am anxious to supplement this statement by my experience gained by service in India, extending over a period of thirty years. For the chief part of that time I was intimately acquainted with the working of the Lock Hospital system, and I am therefore in a position to test the value of the objections which have been hitherto made against them. These objections range themselves under three heads:—

1. The gross immorality of the Lock Hospital system.
2. Injury to women.
3. Failure of the Contagious Diseases Acts as a remedial measure.

As to the first, I ask, In what does this immorality consist unless prostitution be a moral occupation? If not, or whether it is or not, if its uncontrolled practice be the means of spreading disease among the community, what objection can there be to place the women practising it under police surveillance, and to admit them, when diseased, into hospital for treatment? I see no immorality in doing so; rather, without these restraints, the public exhibition of vice becomes more rampant and offensive. The opponents of these Acts allege that the registration of prostitutes, with permission to live in regimental bazaars, is abetting vice. I crave indulgence to make this one observation: When large numbers of men, collected together in one place, are deprived altogether of female society and its influences, the removal of the prostitute class from cantonments may be followed by a still more immoral and depraved state of things. As regards injury to women, I certainly can say, from personal experience, that all the facts are dead against it. For twenty years I was a member of various cantonment committees, and I watched the working of these Acts most carefully. I never knew a single case of cruelty or oppression. The registration of these women gives them some measure of personal comfort, and affords them the means of being carefully treated when sick; otherwise their state is little above that of the brute beasts. May I add that the number of prostitutes in cantonments has been largely increased, because of the want of sanitary police regulations. In relation to the alleged failure of the Acts, surely every listener to General Dashwood's lecture must be convinced that there has been a vast increase, since the Acts were suspended, of all venereal diseases; and that this increase is directly due to their suspension. I recollect well how these Acts were worked, and I admit from time to time there was partial failure. It was not a failure because of faults in the Acts themselves, but because they were often feebly applied. The highest medical authority failed to realise their importance, and gave them but a lukewarm support. He was not alone, but sat in higher company. It was not surprising that this apathy—this want of appreciation of the gravity of the circumstances—filtered downwards. "Follow my leader," when it coincides with self-interest, is not uncommon. The opponents of the Acts assert that the remedy will be found elsewhere, and they recommend:—

1. Occupation, *i.e.*, work and recreation.
2. Temperance.
3. Instruction and advice.

I take occupation and temperance together. They run in couples. A temperate

man is generally an active man. From both springs health. The most philosophic purist will, I think, admit that the healthier a young man is the stronger are his animal passions, the more powerful is sexual desire. The Army in India consists of very young men. They are more temperate than their fathers. Their training as soldiers gives them healthy exercise, and they have much more amusements, both indoor and outdoor, than in former times. Yet they suffer from venereal diseases to an extent that never was dreamt of when the soldier was idle and intemperate. The greatest blessing to the soldier has been temperance, and the general amelioration in his conditions of life in India. May I ask, why should these salutary changes forge a weapon for his own destruction because of his residence among people who are granted license to compass his ruin? I assert, those who argue that temperance and occupation will diminish venereal diseases know little of human physiology, and allow preconceived ideas to take the place of the lessons of experience. The third recommendation is that of instruction and advice. I am entirely in sympathy with the idea. It is in every way sound. By precept and by sympathetic advice much may be done. I think its exponents have failed to realise that, if it is to be really effective, it should be undertaken before the soldier enlists. In a word, that a high moral tone and a higher ideal of life should be given the soldier before enlistment. Because the nation has failed to do so, I claim protection for him after he joins the colours. Who is to undertake this duty? It has been suggested that the officers of his regiment or corps should do so, that it should rest with the Chaplains' Department to a great extent, and that the Army Medical Staff should be specially called upon to assist. I have noticed complaints made that regimental officers failed to exert themselves in this respect, and in helping to give healthy amusements to the soldier. This complaint entirely originates in ignorance of the actual facts. There is no body of men who spend so much money, who exert themselves more than these officers, for the physical and moral well-being of those they command. If the Chaplains' Department has to perform this duty effectively, their number must be increased indefinitely. That it ought to be the duty of the Army Medical Staff, I admit. I have always thought so. And yet, just as that service was introduced, when instruction and advice were most required, the Army was deprived of both by the severing of the regimental connection of the Army Medical Staff. Until once again this union takes place by appointing a medical officer to every corps there cannot be expected any amelioration in the sanitary conditions of regiments in India. In conclusion, I would add, as General Dashwood has pointed out, three-fourths of the British soldiers in India have suffered one time or other from some form of venereal disease. Also, if our Indian Army had to take the field, a third of these soldiers would be either summarily rejected as unfit, or would break down the first month or so from disability, the result of these diseases. If these are facts, and they are now almost official, the time has come for the public to demand that their Parliamentary representatives should investigate the whole subject, and take such steps as will restore efficiency to its Army and bring back health to its soldiers. General Dashwood has performed a great public service by so fully investigating the subject, and by arousing that interest without which no Government will act.

Vice-Admiral Sir W. R. KENNEDY, K.C.B. :—I merely wish to support General Dashwood, and on behalf of the Navy to relate my experience on the East India station. When I was out there as Admiral I happened to notice one day in the pages of *Truth* a very unpleasant article about my flag-ship, which was alluded to as an "old fever ship." Now, we do not like hearing our ships alluded to in these disparaging terms, so I sent at once for the sick-list. It happened to be on my table that morning, and I found there were thirty-eight people on the sick-list, and out of those thirty-eight people thirty-six were suffering from venereal disease. I sent the list to Mr. Labouchere with my compliments, and said that it could hardly be attributed to the climate or to the ship. General Dashwood has alluded to the

Navy, and I just wanted to say that we were not altogether out of it on this occasion.

Surgeon-Major-General J. B. HAMILTON, M.D., P.M.O. Western District:—You have heard the statistical side of this question from General Dashwood, and I do not propose to enlarge upon it. In fact, I may say, as an old statistical officer myself, I have very little belief in statistics. Of course, to a certain extent they are valuable; but it is the old question of the devil being very often able to quote Scripture to his own purpose. Statistics can be manipulated and twisted so that the opponents of these Acts have in many cases put forward statements that are false. What I am now going to speak about is the facts of the case as known to me from over thirty years in the Service. I joined the Royal Artillery in India some thirty-four years ago, when we had men in the ranks, not boys, and in those days we had very little venereal disease. Another point which I think worthy of remark is that we had very little enteric fever. But as the Army became younger, and short service was introduced, enteric fever and venereal disease increased *pari passu*. The younger the men became, undoubtedly disease of both classes increased, partly due, I suppose, to the fact of the venereal appetite being stronger in younger men, and partly to there having been a very large number of married men in the old days. It naturally follows also that younger men will go in the way of temptation much more than older men. It is also a fact that youth is a chief factor in the prevalence of enteric fever in India. Now I think, perhaps, that one or two instances that fell under my observation will be valuable. I went out with the 5th Lancers to the Suakin expedition of 1885, not in charge, but as a passenger. Every man of that regiment was examined before he left Dublin—speaking from memory there were 230 men—and before we arrived at Suez we had thirty cases of venereal among those men. We dropped at Suez all those not sufficiently recovered to go on, and I can say, as a fact, that from 7 to 8 per cent. of that corps never saw the Soudan—they were left behind at Suez; and most of them, I presume, were sent home again. That is a fact, I think, which is worth noticing with regard to active service. Again, I was in charge of the Station Hospital at Lucknow from 1885 to 1891, and we had an average garrison there of between 2,500 and 3,000 European troops. When I took over the charge of that hospital we averaged about fifty cases of mild venereal among the troops. Very seldom did we see the severer form—that is, secondary syphilis. We had an odd case, or two or three, perhaps, in the hospital. Before I left that charge at the end of 1891 we had an average of no less than 120 venereal patients, of which from twenty to twenty-five were chronic cases of secondary syphilis. Another very instructive point was this. I think it was in 1887 we had a camp of instruction at Lucknow. Several regiments were brought in—the Rifles, Buffs, and others—and these regiments naturally came in without any sick, because they started from their station without sick, and on the road they practically picked up no illness. Before they had been in Lucknow more than two or three weeks we had 420 men in hospital, the greater part of them venereal cases, and from one regiment alone I sent seventy men away to their future headquarters—nearly every case venereal—simply because I had not hospital accommodation for them. Supposing that number of troops had been going on active service. There was the fact that out of one regiment seventy men were unfit for duty in a few weeks. It is stated that there are over 3,000 men constantly sick in hospital in India; but my impression is that there are at the present time 5,000 men unfit for duty in consequence of venereal disease, *i.e.*, minor cases and chronic ones of secondary syphilis. Let us consider what would happen were war to break out in Afghanistan and two army corps were sent up. Men would develop disease in the train and on the line of march, and the field hospitals would be crowded with venereal cases. The general in command would find when his sick and wounded men were required to be sent to the rear, that instead of the field hospitals being available for them they were filled with men suffering from venereal diseases. The next thing I would

like to speak of is my experience of the actual facts connected with Lock Hospitals. I was put in charge of the Lock Hospital in Cawnpore in 1875. When I took it over, there was an average of seventy men in that garrison suffering from venereal diseases. I do not speak now from egotism, but I took this matter in hand, and I was given powers of a magistrate by the Local Government to deal with Lock Hospital matters with full authority over these women. As many of the officers present know, the Ganges canal separates the cantonment from the city, and we put the city out of bounds and placed garrison police on the bridges. In that way we reduced the disease in that cantonment to one single case of gonorrhœa. That shows what can be done with the Lock Hospitals. In corroboration of that a noteworthy thing happened. A new colonel took over the command of a regiment, and very shortly after venereal rose most rapidly in that corps, until we had something like forty cases. The colonel attacked me and said it was my fault, and that the Lock Hospital was badly managed. I said, "Well, I will see into the matter." I sent a very intelligent native doctor down to the city in plain clothes to find out what was going on. He came back and told me that the city was full of soldiers every evening. I went to the brigadier, and we then found out that this officer had exercised his authority and given practically unlimited passes to his men to go into the native city. There was a Court of Inquiry held, and, as the result, an order was issued that no man was allowed to go into the city except on a pass which went through the brigade office; in consequence of which venereal dropped almost to its original numbers. The Acts, as we all know, are done away with; but what have the abolitionists done for us instead? They have done nothing. Have they sent missions to the fallen women? Have they attempted to improve the men's morals? In India there is a system by which girls are trained up to be prostitutes. Have they attempted to put down that system of bringing up girls to prostitution? No attempt has been made by any of the abolitionists to put a stop to that system. I may also say that I believe the Acts in this country saved hundreds of girls from prostitution. The mere fear of what was called the "Water Police" prevented them going wrong. Another thing I wish to say is, the statistics, as far as they go, do not anything like give the true condition of the Army as regards venereal, particularly as regards invaliding. I am president of the local Invaliding Board, and I know that scores of men—not in my particular district alone, but taking England generally—are sent out of the Army yearly who suffer from diseases brought on by syphilis, though they are not called syphilis; men suffer and are invalided for heart disease, brain disease, spine disease, diseases of the lungs, paralysis, and various other diseases, undoubtedly the result of secondary syphilis. It is to be remembered that these men go into civil life and breed syphilitic children. I come very briefly to the question of what can be done, and I say at once, and I think I am right in saying so, that the re-imposition of the old C.D. Acts, in their original form, I believe to be impossible. The opposition would be so great in Parliament that I do not believe it could be carried out. What I hold is this, that venereal disease ought to be put on exactly the same lines as any other infectious disease. I see no reason why a man or a woman suffering from small-pox or diphtheria should be locked up, while a woman suffering from syphilis should be allowed to ply her trade all over the place. [*A Voice*: What about the man?] I reply to that, that we do lock up men when suffering from venereal disease. I do not believe that the issuing of tickets, with the medical officer's signature, certifying to the state of cleanliness of the woman, would ever again be permitted; that is out of date. But I do think that voluntary Lock Hospitals should be established, and where there was evidence that a woman was suffering from venereal disease she should be compelled to go into the Lock Hospital or leave the limits of the cantonment—a five miles' limit, say—and if she entered that place again she should be arrested as a person dangerous to the public health. Moral influences are valuable, no doubt,

but men cannot change their nature; and, as Edmund Parkes has written, "The venereal passion is the strongest that is implanted in the heart of man; he will brave all dangers, all difficulties, even death itself, to gratify it."

Colonel P. H. SMITH (late Devonshire Regiment; Reserve of Officers):—My only excuse for appearing before you to-day is the interest I have taken as an officer formerly commanding a regiment in Her Majesty's Service. On this subject I have but little new to put before you. The matter has been most ably handled by our lecturer, and I think we are thoroughly in accord with the views he has expressed on the subject. In 1888 I was in India, second in command of a regiment, and, as our lecturer has told us, at that time the C.D. Act was abolished, and that was supposed to be an end of it. We were able to keep up a very effective supervision right up to the end of 1890, and the result was, that although venereal disease did increase in the regiment, it did not increase to the enormous extent which it would have done otherwise. After some time I returned to India in command of a regiment, and we had to start with a perfectly clean sheet. I was applied to, as most officers were, but I took advice from the officer then in command of the King's Own Scottish Borderers, and he said, "Have nothing to do with them; the regulations are now very strict, and you will only get yourself into trouble." I was fortunately able to comply with his advice, and the consequence was that later on in the same year when all the commanding officers had to answer a very searching series of questions as to the regimental establishments, I was able to present a perfectly clean sheet; but the increase of venereal disease in the regiment was frightful. I believe it is the same with other regiments in the Service. Now, had any real good been done either to the men or women in India I do not think we should have said anything; but there is not a single prostitute less in India, and their state is very much worse than it was. If we can induce the people of England to believe *that*, we will get something done. It is not in the power of the general officer commanding in India; his hands are powerless in the matter. Sir George White is perfectly powerless in the matter. He acts under orders issued from Home, and the people issuing those orders are ignorant on the subject. They act from sentimentalism, and nothing else. I came home less than two years ago in command of the troops on board Her Majesty's ship "Malabar." She was crammed with invalids, and most of those invalids were cases of syphilis; and some of them were frightful. There were young men whose services were absolutely lost to their country, and not only lost to their country, but they are a drag on their country. And why? Simply because of the ravages of this disease which might have been prevented. I do not say it is possible—it is not possible to have a perfect system, but it is possible to largely prevent that disease, and we are wrong in not doing so.

Mr. H. J. WILSON, M.P.:—Having been favoured with a printed proof of General Dashwood's address, I was able to make a few notes in advance. I agree strongly with part of what General Dashwood says, and I disagree as strongly with part. That a terrible state of things exists in the Army of India and elsewhere is well known to everybody. I have no wish to minimise it, but I entirely and absolutely disagree with the remedies suggested. The diseases in question are the result of vice. Those who are opposed to the system known as the Contagious Diseases Acts, *police des mœurs*, or Lock Hospital regulations, as understood in India, maintain that the aim should be to get rid of the vice by moral means—useful employment, recreation, and the like. Those who are opposed to us appear to believe that the vice is inevitable, and that all you can do is to endeavour to avert the consequences in the shape of disease. I will not now discuss the question from the point of view of morals, though I think that morals ought always to be kept to the front. As to the accuracy of General Dashwood's statements, he says that about the year 1877 the regulations were tampered with and relaxed. He does not tell us by whom. We want to know whether there is any trace of this alleged relaxation in the official records. He says they were

still more relaxed in 1883. Where is the proof of this? General Dashwood will not assert that the change which was made only at Calcutta justifies his statement. General Dashwood gives certain figures for the West Indies, China, and Gibraltar; but why does he omit Malta, where the system has been in force all along, and where there has been a great increase of disease? In 1887 there were only 76 admissions per 1,000. Only four years later they were 177—an increase of 132 per cent., or a great deal more than double in four years! The last returns show the admissions to be as high as 134 per 1,000. Returning to India, nobody disputes the fact of rapid increase. But a still more rapid increase took place before, while the system was in full operation. In the four years 1883 to 1886 the admissions increased 44 per cent., while in the four years 1892 to 1895 they have only increased 27 per cent. It is perfectly true, as General Dashwood says in the note to Table IV., that in the last fourteen years admissions have more than doubled. I do not know why he took fourteen years, but if we take the last fourteen years, with this system in operation, increase was still more rapid, viz., from 167 to 361. General Dashwood says, in a letter in yesterday's *Vanity Fair*, that this increase was only 10 per 1,000, and not 14. But this is another mistake. The rise is 194, which, divided by fourteen years, gives within a fraction of 14 per 1,000 per year increase. You cannot get over the rules of arithmetic. The first thing which gentlemen who do not agree with my views ought to do, is to explain as best they can this continuous increase of disease under the system which they desire to restore. Let it be remembered that for many years sanitary commissioners in India and the Army Sanitary Commission at home have, with almost wearisome iteration, declared the Regulation system to be a failure. I shall be glad to forward to any gentleman who will favour me with his address a few of the quotations admitting failure, which I have compiled in a little pamphlet. What, then, do I suggest? I suggest that we should unite to see what can be done with the recommendations of the Royal Commission thirty-three years ago, quoted and referred to again and again by the Army Sanitary Commission, which I give in the words of the Royal Commissioners:—"There is one means of reducing the temptation resulting in sexual disease which ought to be encouraged, and that is to improve the soldier's condition in the way of occupation, instruction, and recreation—in fact, to occupy his wasted time beneficially and rationally. The late General Jacob was fully aware of this when he stated that 'moral forces alone are of any value.' So far as we can deal with this question, occupation appears to us to afford the most reasonable hope of diminishing this great scourge, by leading men away from the canteen and from vice." Those are the words of the Royal Commissioners in their Report, Vol. I., p. lxii. The Army Sanitary Commission, in a paper issued only two years ago, after declaring that the "compulsory Lock Hospital system in India had proved a failure, and that its re-institution cannot consequently be advocated on sanitary grounds," say, "We believe that the best practicable means of diminishing the prevalence of these diseases is to be found in establishing a system of voluntary Lock Hospitals, and in providing the soldiers, as far as possible, with healthy occupation and recreation."

MR. ARTHUR JEFFREYS, M.P.:—My excuse for intervening in this debate is that I happen to represent the camp and town of Aldershot in my division of Hampshire, and I have a great number of soldier constituents, and of course I hear a good deal about these grievances. I should like to begin by saying that I do not think this is at all a political party matter. Mr. Wilson has given his arguments and his reasons for not putting the C.D. Acts into force, and I should be very sorry to oppose him altogether, because I think myself that the C.D. Acts cannot be put into force again in England. But with regard to what I have heard from General Dashwood's lecture to-day, I feel sure that we were very wrong in sending out that resolution which we did in the year 1888 from the House of Commons to India. And I think India should be allowed a free hand in these matters. There is one thing which I think might be done, and that is

with regard to Voluntary Lock Hospitals. When once a woman, or indeed a man—but particularly a woman—goes in there of her own free will, as is often the case, I would never let her out again until she was absolutely cured. The medical officer who spoke just now told us the very great danger there was in letting these women out half cured, and I know for a fact that a good many of them do go out before actually cured, and then they spread the disease. With regard to what Mr. Wilson has said about Malta, I hold in my hand a Return to the House of Commons, No. 153, issued last year. I find there that the admissions for venereal diseases amongst the troops to the hospitals in Malta in the year 1893 were 1,128; in the next year they had fallen to 1,017. I find also that the admissions per thousand of strength of the troops in the year 1893 in Malta were 157, and next year 128. Now contrast that with the enormous number of cases in India. In Bengal alone the number of soldiers admitted into hospital in the year 1893 was over 19,000, in the next year the number had increased to over 22,000. In Madras the number of men admitted into hospital was over 6,493, in the next year it was 6,900. In Bombay there were 6,200 admissions in 1893, and in the next year they amounted to 7,300. So it is throughout this paper—showing that in India this disease is constantly on the increase. I moved yesterday for another Return of this paper for last year, and I believe it will show again that the increase of the disease is enormous. I am sure it is quite time to try some remedies to stop the disease, which is not only ruining our Army, but is a great scourge to humanity. As far as I am concerned, Sir—of course we have to keep an open mind on the subject until the Committee has reported which is now investigating this matter—I think after having heard what General Dashwood has said here to-day, and what the various medical officers who have spoken here have said about the disease, it is quite time that Parliament should turn its attention seriously to this matter, and, if possible, find some remedy.

SIR HENRY S. CUNNINGHAM, K.C.I.E. (late Puisne Judge, High Court, Bengal) :—We must all feel much obliged to the Royal United Service Institution for having initiated this discussion, and to General Dashwood for the lucid statement of facts which he has given us as a basis for the discussion. The feeling left on my own mind, and, I suspect, on the minds of many of those who hear me, is one of regret, shame, and humiliation, that we have allowed this dreadful evil to go on for so many years without making any systematic attempt to remedy, or even alleviate, it. I have watched the subject with care for many years—I suppose many of us have done the same; we have seen the process by which it has reached its present portentous scale. We have seen how, under restrictions—inadequate, incomplete, badly, fitfully, and partially carried out, discouraged too often by disfavour from high quarters—the prevalence of the disease increased, but at a moderate rate. We have then seen Parliament, by a resolution in 1888, insisting on the curtailment of those restrictions, and thereupon a serious acceleration of increase. Next we find rules issued in 1890, under which a certain degree of supervision and protection was afforded, and, consequently, in 1891 and 1892 a fall in the ratio of more than 100 per 1,000. Then, consequent upon agitation in England, every restriction is swept away, the disease is left to take its course, and it advances by leaps and bounds, until now you have more than half your entire Army suffering from venereal disease, and some 22,000 or 23,000 men every year suffering from those serious forms of the disease, of which it has been justly said, no disease is fraught with such dreadful and far-reaching consequences to humanity, no disease takes such subtle and various forms, no disease is more apt to be handed down to innocent and irresponsible victims. General Dashwood's figures have illustrated the state of things from the point of view of efficiency. They show that your Army in India is really insufficient for its work. If that Army was designed, as we know it was, by competent experts as the very smallest that could adequately protect the confines of the Empire, then I say you have not got that Army; and you are in all the danger which military experts declare the

country to be in, when its Army was numerically insufficient. Supposing three or four regiments were permanently sent away, for instance to Persia, or somewhere else, everybody would be saying that the country was in danger, and the Army insufficient. But this is a permanent removal. You have every day of the year 3,000 men *hors de combat* on account of venereal diseases, besides many more unfit for active service. Some fifteen men in the course of the year die of it, and you have 400 or 500 men sent home, either finally discharged, or to fill your hospitals with scenes more horrid than those of the battle-field. I hold in my hand a description of the scenes witnessed last week by a gentleman who was shown over the Netley Hospital, and what he describes is too horrible to read aloud, and almost too horrible to believe. Now, gentlemen, that is the disease which we are importing at the rate of 400 or 500 actual cases each year; and you have those 22,600 men, who suffer from syphilis every year in India and who come home, mix themselves with your civil population, and produce, we must fear, the natural result. I hope that we shall not break up this afternoon without coming to some definite conclusion which may take a practical form. We appear to be extremely unanimous; we appear to be extremely earnest; we all feel it most deeply, and, I think, although it is true that a Departmental Committee is sitting at the India Office, we ought to come to the aid of the Government and the India Office by endeavouring to raise up in the country a body of opinion which will support the Government in any legislation, and any course of action, which may be necessary for adequately dealing with this dreadful scandal. In 1888, as is well known, the Secretary of State, exercising the exceptional powers given to him by the statute, over-rode his Council, and sent out a despatch on the subject, from which a majority, more than 2 to 1, of the Council dissented, and recorded their dissent. Why did he do that? Because the Ministry approved of it? Because they were glad to sanction a policy which involved the complete abandonment of all efforts to protect our Army from disease? Because they regarded with a light heart the inevitable increase of disease and diminution of efficiency? No! but because the Government dared not go against the weight of opinion that existed in the constituencies, and in the House; because they dared not risk a struggle with the party in the House which represented the fanatical feeling raised in the constituencies by the agitation on the subject. Now, gentlemen, we have to combat that fanatical feeling; we must lay the true facts of the case before the public; we must let the fathers and mothers of England know how their sons are treated—the risks which their sons will undergo when they go out to serve their country in India, and the risks their daughters subsequently undergo. We must never rest until we have produced a body of public opinion upon this deplorable subject, which will enable the India Office and the Government to act as they know that they ought to act, and as they wish to act with regard to it. I hope, Sir James, that you or other gentlemen of influence and position will take measures to form a committee on this subject which may instruct and enlighten public opinion, and may enable the Government to grapple effectually with a state of things which is a danger to the State and a disgrace to our civilisation.

Field-Marshal Sir DONALD M. STEWART, Bart., G.C.B., G.C.S.I., C.I.E. :—Mr. Wilson has produced some figures for the purpose of refuting the statistics put before us by General Dashwood. Of course, figures can be made to prove anything by a practised hand. I have got a few here taken from the books of Chelsea Hospital, and they record facts. In 1875, 3,863 men were invalided from the Army. Of these, 127 were invalided on account of venereal diseases. In 1876, 4,028 men were invalided, and of that number 179 were invalided for venereal. In 1895—mark this—only 3,009 invalids came before the Chelsea Commissioners, and of that number 423 were venereal cases. In 1896, 3,609 were dealt with, and the number of venereal cases had increased to 511. Those figures, I think, speak for themselves. They show that

the percentages of venereal cases rose from 3.29 in 1875 to 14.16 in 1896, and strengthen the appalling facts put before us by General Dashwood.

Major RASCH, M.P. :—I have only half a dozen words to say, and I should not trouble the meeting at all had I not seen the work General Dashwood has done during the last three weeks with reference to this particular subject. I think the thanks of the Army, and of the country in particular, are due to General Dashwood for what he has done, because, gentlemen, in spite of misrepresentation of figures and the cooking of accounts and misstatements of statistics of which we are all aware, he has shown us this : that the admissions to hospital in India amount to 536 per thousand. He has brought out the facts that the statement made by the *Times* on the 12th January was correct, that 10,000 men were practically incapacitated, that out of the 72,000 British soldiers in India 3,500 men are permanently struck off duty, and that something like three-fourths of the troops now serving in India have been attacked by venereal diseases. With reference to the figures given to the meeting by Mr. Wilson, I desire to speak with very great deference, because I know Mr. Wilson has given a very considerable amount of time and has had this matter very much at heart for many years ; all I wish to say is this, that with reference to the admissions to the hospital for venereal diseases from 1880 to 1883, the rise was caused simply by the laxity with which the Acts were put in force. The Acts were abolished in 1888, and in 1895 we had a Return which showed that the number came out at 536 per thousand. Sir Donald Stewart asked what are we going to do. What we have to do is to bring these facts home to the people of this country. I am perfectly certain they do not know them, but when they do know them they will put their feet down and insist on the authorities doing something practical in the matter. I think that is all we can do at present. We have to wait for the report of the Departmental Committee, and when that is out I think the committee you form here may be able to do something practical. I hope the report of the Departmental Committee will bring home to the public what the facts are.

Surgeon-Major-General T. F. O'DWYER, M.D., P.M.O. Aldershot District :—I have very few words to say, because most of the points I intended to deal with have been referred to by other gentlemen. I will ask you to allow me to contrast the state of things at Malta with that in India. At Malta the Contagious Diseases Act is in force, and has been in force since 1861, and I am glad to say it will remain in force, because the Maltese there are Home Rulers and pass their own laws, and they have declined to repeal it. They maintain that Act, I may say, not for the sake of the Army and Navy—they do not consider them very much—but they do it to protect the local population, and, of course, the Army and Navy get the benefit of it. The figures I intend to read were taken from the Army Medical Department Report, 1895, Vol. 37, presented to both Houses of Parliament, printed for Her Majesty's Stationery Office. The figures referring to India I have calculated from what I find on page 124 of the book, and those for Malta from what I find on page 52. I find in India primary syphilis caused 178 admissions per thousand of strength. I find that the same disease in Malta caused 26 admissions per thousand of strength. Simple venereal ulcer caused in India 66 admissions per thousand of strength, and in Malta only 8 per thousand of strength. Secondary syphilis caused 86 admissions per thousand of strength in India, and the same disease in Malta only 22 per thousand of strength. Gonorrhoea caused 204 admissions per thousand of strength in India, and only 78 per thousand of strength in Malta. The total admissions from all forms of venereal diseases in India was 534 per thousand of strength in 1895, and during the same year in Malta the total was 134. In Malta the disease has fluctuations, and it is quite intelligible why that should be so. There is a large fleet there, and sometimes their duties take them and keep them away a long time from Malta. When they come in they have been all over the Mediterranean and to places where this disease is very prevalent, and no doubt they disembark ship-loads of it.

Besides, sometimes three or four regiments are introduced from England in the year, and they land a great number of diseased batches of men. In that way the figures vary somewhat. But it must be remembered from the figures I have given that for every man admitted into hospital in Malta for venereal disease there are four admitted in India. I have not taken decimals, and it is not necessary. I will put the thing in another way: primary syphilis is six times more prevalent in India than in Malta; simple venereal ulcer is more than eight times more prevalent in India than in Malta; secondary syphilis is nearly four times more prevalent in India than in Malta; and gonorrhœa is more than twice as prevalent in India than in Malta. According to my experience in Malta—and I have had charge of a hospital there for five years—gonorrhœa is the disease that is rather more difficult to deal with. The strength of the Malta garrison is, of course, a very large one. There are nearly 9,000 British troops there, excluding the local force: and in India during the year that I have taken, the last year for which a report was published, there were 68,000 odd. These are facts that I think ought to be considered, and I hope the Press will put them before the public and let them consider them. I do not give any opinion on them. There they are. Let those who oppose the Act refute them, if they can, and explain why venereal disease is so much more prevalent in India, where the Act is not in force, than in Malta where it is.

Mr. MAURICE GREGORY (Secretary of the Friends' Repeal Association):—The lecturer has compared the figures of four Continental Armies with those of the European Army in India; but the statistics of Continental Armies on this subject, available to the public, are extremely meagre. Allow me to produce the figures of two other Armies, for which full statistics for many years past may be obtained by anybody from the Queen's printer for a few pence. Here are the figures for ten years, taken from Lord Lansdowne's despatch, published as Parliamentary Paper 318 of 1895. I commence with the year 1877, because that is the first year in which the whole of the figures for the Native Army in India are given. I choose these particular ten years because it is the period when the Acts were most drastically enforced in the Army in India, culminating in the order in the circular memorandum of 1886, that general and commanding officers should provide the troops with "a sufficient number" of "sufficiently attractive" women. This circular memorandum was published as Parliamentary Paper 197 of 1888. [Mr. Gregory here produced a diagram showing a steady increase in disease under the Acts amongst the European troops in India, from 209 per 1,000 in 1877, to 389 in 1886. It showed a nearly level line for disease during the same years, amongst Native troops in India who were without the C.D. Acts, the ratio per 1,000 being one-tenth of that amongst European troops.] The figures for the Home Army contained in Parliamentary Papers 509 of 1893-94 and 153 of 1896, and the last figures from the Army Medical Report, show a decrease owing to the promulgation of a Royal Warrant by which soldiers admitted into a hospital on account of this disease forfeited their pay under treatment. They show a steep fall in disease since repeal, from 267 per 1,000 in 1886 to 174 in 1895, and a sudden rise when the order was withdrawn. We submit that the Army Sanitary Commissioners in their memorandum of 1892, published in Parliamentary Return 318 of 1895, are only stating the common-sense facts of the case when they say that the C.D. system has "proved a failure," and that "its re-institution cannot consequently be advocated on sanitary grounds." They also say that "in stating this conclusion we may add that we are merely repeating the opinion which the Army Sanitary Commission have uniformly held"—no new thing—"that venereal disease in the Army of India could not be repressed by such restrictive measures; and in support of this statement we may refer to the memoranda on the Indian Sanitary Reports which have been issued from this office for many years."

Major G. K. SCOTT-MONCRIEFF, R.E.:—When I heard of the paper to be read before this Institution I thought that very possibly it might deal with the

broad question of sanitation, and, as a member of the Sanitary Institute, I have taken very special interest in that subject. I may possibly have a little knowledge about it; but inasmuch as the paper deals with a special branch of the subject, I can only profess that I have the same interest in it that other officers have who have served in India, as I have, for some time, and who have been in command of soldiers, both at home and abroad. I think that we owe a debt of gratitude to the lecturer for bringing the subject forward, even though we may not absolutely agree to all he says; and more especially because the subject is one which naturally one shrinks from, and which, I think, many officers would rather leave alone altogether. In making any suggestions I do so with all deference to the opinions of men wiser than myself, and merely put them forward in the hope that perhaps they may contain some ideas, which, in the hands of other men, may be worked out with practical and beneficial results. I should like to preface any few remarks I have to make by saying that I am sure no officer who considers this terrible question could do otherwise than deplore the fearful ravages caused by this disease. On that, I am sure, we are all at one; whatever our views may be ultimately on the subject, we are thoroughly agreed on that point. I am sure, also, that none of us would desire to do otherwise than take any reasonable steps which may possibly tend to diminish both the total sum of human suffering in connection with this disease, and also, what is to us the more important question, of military efficiency. I take it, too, that the object of our meeting here is not to denounce either one party or the other, but to see whether steps are possible to mitigate the sufferings of our fellow creatures. To that, I understand, the answer of many gentlemen here present would be the re-introduction of those preventive measures which, in the past, unquestionably attained a certain degree of success. May I be permitted to offer this thought? I dare say it may be contrary to the views of many here present, but still I put it forward, not merely as my own idea, but as that of older and wiser men than myself, who served with me in India. As executive engineer of Lucknow, and an *ex-officio* member of the Cantonment Committee, I was associated with officers of great experience, both military officers and medical officers, and I think I am stating their views when I put this matter before you. The action of the Acts, let us say in the year 1883, when I was at Lucknow, was very much analogous to that of a surgeon who, in treating a foul sore, were to apply a plaster to the surface, rather than go down to the deep-seated root of the disease. The plaster itself may be very efficacious in its proper place, but it seems to me the real matter lies deeper. I think that *theoretically*, perhaps, the operation of the Acts gave no sanction to the idea that vice and immoral living were regarded as necessary; but I think that *practically* they were interpreted by the soldier to mean that the Government gave opportunities to them for practising immorality with impunity. ("No, no.") I may be wrong, gentlemen; I merely place that opinion before you as the opinion, not only of myself, but of others. Theoretically, perhaps, it may not be so; practically I think it was interpreted so—certainly by many—as giving them the opportunity of practising immorality with impunity. Thus a feeling was created among the men, a public feeling, which has existed more or less to the present day, a public feeling which I think is borne out by the statistics of the disease both before and after the operation of the Act. I may be wrong again, but I think that public feeling has been created by the action of the Government, and it takes a long time to eradicate it. That feeling, too, is further fostered by much of the foul literature which has crept into the barracks at the present day—literature that it is possible, to a certain extent, to keep out. It seemed to me again a little inconsistent that, on the one hand, the authorities placed before the men opportunities for practising this form of vice; on the other hand, they marched them to church to hear the same evil denounced in the very stern words of the Bible. I feel quite sure that if direct encouragement were given to chaplains to speak about these matters much good would be done. I freely acknowledge the good that has been done

by many of them in endeavouring to place before the men the dreadful consequence of this crime. With regard to the question of bringing moral influence to bear on the soldier, I think one may see analogous instances by what is done in India in the way of temperance.

Mr. N. C. MACNAMARA, F.R.C.S. :—With reference to venereal disease in the Army, I wish to observe that early in June, 1896, I was in communication with the Secretary of State for Home Affairs, feeling, in conjunction with several distinguished officers of the Army, that we should turn our attention to the civil population as affecting the military. In answer to that communication, I received a letter to the effect that "the Secretary of State for Home Affairs is fully aware of the evils which you describe, but he regrets to say that there is not at present any informed public opinion to justify the proposed action on the part of the Government." Therefore the advantage of a meeting of this kind is that we must try to enlighten the public with regard to these matters. The communication with the Secretary of State for Home Affairs having failed, it seemed desirable to approach the War Office, and I therefore addressed a letter to that Department upon this subject, and my communication was forwarded to the Departmental Committee which is sitting at the India Office. On enquiry I found that this committee is only concerned with the question as to the alleged increase or otherwise of syphilis in the Indian Army, but is not to consider preventive measures or to recommend any steps to diminish the spread of syphilis among our soldiers in India—a matter which is surely all-important, for the medical reports of the Army demonstrate the increase of the disease in India. With regard to the Contagious Diseases Acts, it is impossible to re-establish them in this country or in India; but there are means outside those Acts for diminishing venereal disease in our Indian Army. For instance, I was in charge as far back as 1854 of a European regiment in India. In that regiment the men suffered from syphilis less than the then average of 134 per 1,000 of our European troops in India. Regulations were then in force to control this disease, which were arranged by the cantonment joint magistrate, the colonel, the doctor, and the adjutant; and these measures answered their purposes, and might be instituted again to-morrow with equal effect: they were outside the province of the Government. It is by going back to a system of that kind that we may hope to ameliorate the evil of syphilis in our European Army in India. What has been done can be done again. Our soldiers are a better educated class of men than in 1854, and yet we have a vast increase of syphilis in the Indian Army brought about by a set of faddists in this country who know nothing at all about India or its Army, but who have had sufficient influence to force the hands of the Government, and so brought about the terrible condition of things we all deplore. The point is, How is this to be remedied? I think much may be done in the way which has been suggested above, and by forming a committee who will investigate this question, and also inform the public on this matter. The Secretary of State for Home Affairs might move, but only if public opinion were roused as to the evil which is going on. I do not see how it can be awakened unless through the action of a committee appointed at a meeting of this kind; it is impossible for gentlemen to stir up the country discussing this question. The Departmental Committees sitting at the present time in the India Office have sent a circular to various medical authorities in London making enquiries into important details connected with this subject, questions which no one can effectively answer, but which I think might be solved by a committee such as that proposed. The appointment of such a committee is a matter of the greatest practical importance so far as this subject is concerned; and I do not think we should disperse without thus taking steps to carry on the work which has been commenced this afternoon, and which I fear will otherwise be of but slight practical advantage to any one.

Brigade-Surgeon R. PRINGLE, M.D. (late Indian Medical Service):—I have only a very few words to say, seeing that it is getting so late. We have been talking of

bringing moral measures to bear upon this subject. How can we possibly bring any morality to bear upon a subject when the Government itself considers it necessary from the point of health to establish a system which is a breach of morals to begin with? What would be the sense of it? Why go and preach to these men morality when they can turn round and tell you, "The Government do not believe it; they supply us with these prostitutes." That is not the way to begin teaching morality; you must begin a little lower down. As for saying temperance has nothing to do with it, those who know anything about the subject know that it is the drunken soldier who gives the doctor all the trouble. I am a medical man, and know what it is. I was present in the House of Commons when the first question was discussed regarding the abolition of these Acts, and I can remember the union between both sides of the House when the decision was come to that these Acts should be abolished; but that, if abolished, care should be taken that Lock Hospitals and a proper system were established. One of the members of the Government at that time said, "We have no wish to leave such a legacy and anxiety to those who follow us," and it was thrown out. That is how the country is left now. The poor women have no place to go to for protection. I speak to medical men who can support what I state.

The CHAIRMAN:—Is that referring to India?

Brigade-Surgeon PRINGLE:—Referring to India, certainly, and ten times more to this country. It refers to India in this way. These women are still carrying on their trade; they are thrown out of the cantonments, and they remain outside and they carry on their profession at night. We are approaching a condition of syphilis which will alarm England hereafter in its terrible intensity and virulence, and that is caused by the gross neglect of letting these women be scattered over the country with no means of treatment. Let it be a voluntary hospital if you like. Someone said that those who opposed this have done nothing to alleviate the misery connected with it. I certainly beg to differ entirely. Efforts have been taken. When I came home from India I was in a large reformatory to which the cases were sent from the Lock Hospitals, and a good many things were done for the women. To say that we do not do it, is a little hard upon people who have been labouring in this work for some time. Unquestionably the British soldier now is infinitely more amenable to moral conversation on this subject than ever he was before; only we must not talk of morality when it is thought to be a necessity for vice to be carried on. I speak to medical men here, and they knew as well as I do that there is one function, and only one function, in the whole human body that can lie in abeyance for years and not be injured. It is said that some means must be provided for dealing with the matter. I at once differ from that, and say there is not the slightest necessity for a hospital. What I want is, to try and let the men see, through their non-commissioned officers, our anxiety to save them by moral means, notwithstanding the temptations with which they are surrounded.

Dr. ROUTH:—I happen to be one of those who are totally on the opposite side, and after having been investigating the subject for years, having been examined before the Royal Commission as well as before the House of Commons Committee, and knowing the subject, as I may say, to my fingers' ends, the first thing I would call attention to before I refer to a few statistics, is this, that there is one thing in all these discussions which I think is a great error. You are always talking about the disease increasing, but you forget that it is a law of nature that at different periods of life, and even different periods of centuries, certain epidemics will assume a character intensely severe, whilst at other times they will be mild. Do not you see that it is perfectly evident that many of these diseases have become very severe because there is something in the atmosphere, or something in the population, which gives rise to them, and develops them? The whole theory of bacteriology proves this. I may ask you one question in

reference to this in particular, Why is the plague worse now, why is it all over India? Is that due to anything that has been done, or to any difference in the classes of people? Do not they conduct themselves exactly as they did before, and have the same laws as they had before? Why is it now so terribly virulent? It is the law of all epidemics. You are forgetting that law which is extant in India and other parts of the world, that at certain seasons of the year an epidemic will break out severely and kill by thousands, while at another time it will occur and scarcely kill by hundreds. Then there is another thing. Some of you have spoken very much against the Sanitary Commission in India. I presume that Sanitary Commission consists of honourable men—I do not conceive they are rogues. From the Governor downwards I find that they recommend certain means. There is one in particular which seemed to create a great deal of hilarity with some of the gentlemen present in regard to recreation, athletics, and other measures of that kind. Now, are you not perfectly cognisant of this fact, that if you get a man to practise these things he necessarily will have a degree of pleasure in doing so; but if, on the other hand, you take a man who is not an athlete or a sportsman, and place some handsome woman before him, is not he likely to go wrong with her? You must educate the soldier in the physiology of his own body, let him know what he is doing by these crimes he is committing; let him know that he is committing the excesses of brute beasts; then when you have instructed him you will find he will be a much better man than he was before. We want that instruction given, and you do not give it. Medical officers I dare say do, but in the regiments I am quite sure I never heard of it, except in the case of a few excellent characters like Havelock, and a few others. These soldiers come out of the slums of England, at least many of them do, and go to India, men who cannot get occupation in any other way. They go out there and find all these inducements to vice, and nobody to caution them. Their education has been small in the olden times, perhaps they come of bad parents. Your duty is certainly to educate that soldier, and teach him that by falling into vice he not only ruins himself but his offspring, and probably his wife, when he gets her. I will take another circumstance where, I think, these men who advocate the C.D. Acts are very much in error. They have made comparisons of the disease as it existed in certain years, but they do not take long enough spaces of time. Now take the Indian Army, venereal diseases of all kinds, for seven years before the Acts. It begins at 339 per 1,000, and it ends at 187 per 1,000. That is before the Acts. Now after the Acts. It begins at 189, and runs up to 504; the Acts being in full play. ("No.") Yes, that is so. I have it here in black and white. I have got this upon positive evidence, and I am ready to stand by it. And then, after the Acts are done away with, at first it is 400, then it goes on to 419, and then to 338, and then to 337 in 1895. So that you see in point of fact before the Acts it never reached to the extent that it reached after the Acts, and when they were in full play. When they were in full play it reached the number of 500. Why? These records are the records of the Army which have been published.

Major-General A. B. TULLOCH, C.B., C.M.G.:—It has been stated that when the C.D. Act is in force it is not effective. That is because it is not properly carried out. This I found to be the case when commanding my regiment at Cairo. A large number of men were laid up. I determined to have the local arrangements properly carried out. There was a C.D. regulation of the Egyptian Government, but the native doctors did not enforce it as they should have done. The first order I gave was that any man seen speaking to a woman within so many hundred yards of the barracks should be punished. When a man's name appeared for venereal in the morning sick report, he was marched off to the house in the Naser Bazaar where he contracted the disease, and the woman was then taken by the Egyptian authorities to the hospital. The result was that I reduced the figures in the case of my own regiment from 50 to 7 within a month. Afterwards, when commanding the whole of the troops in Cairo, I

carried out the same system; and when I left Cairo, although the brigade was 3,000 strong, there were only 35 men in hospital with venereal disease.

Dr. EDWARD BERDOE :—I wish to ask the General whether a few years ago an order from the highest military authorities in India was issued to the sergeants, to exert themselves a little more to find out young and pretty women for the use of the soldiers; and whether at the same time a tariff was published of the fees to be paid to those women, ranging, I believe, from half a rupee for the common soldier, to a couple of rupees for a commissioned officer? If this be so, it throws an immense amount of light on the statement in General Dashwood's address, where he says :—“The reason why this form of disease is more prevalent in a foreign station than at home is obvious.” If our fathers, when they were at school or at the University, had a recommendation like that issued to them, with a tariff such as I have mentioned, we should not now see the number of fine men we have here to day—we should see a wretched lot of syphilitic dwarfs. Therefore, if syphilis is increasing at this terrible rate in India, and the instruction I refer to was issued, the military authorities seem directly responsible for propagating a disease which is decimating the troops.

The CHAIRMAN :—There was an order, but it was cancelled as soon as it was issued. I am not sure it even got so far as being published; but there was some order to that effect, and it was at once cancelled.

General DASHWOOD :—I never heard of an order in which you talk about rupees and tariffs. Mr. Wilson referred to an order issued by General Roberts, and I have heard of that.

Dr. EDWARD BERDOE :—I have the paper before me, ordered by the House of Commons to be printed 4th June, 1888 :—“In the regimental bazaars it is necessary to have a sufficient amount of women, to take care that they are sufficiently attractive, to provide them with proper houses, and above all to insist upon means of ablution being always available.” That accounts for the whole business, I think.

Lieut.-Colonel A. T. WINTLE, Retired Pay, R.A. (late Bengal), after propounding the theory that syphilis was, to a large extent, due to vaccination, went on to say :—As far as syphilis in the Army is concerned, judging from my experience when the Acts were in force, we could not prevent men getting laid up, because they would not go to the women in the bazaar, and they got the disease outside. You cannot help that, and I defy you to help it. Personally, I agree that as far as possible we should endeavour to prevent it, but I do not see how we can prevent it to any great extent. After all, in the sexual relationship the three main phases are prostitution, marriage, and purity. The purist party do not acknowledge the vestal virgin purity at all. If we are to have purity, why not go in for the real thing? Another question I should like to bring up is this, that in what we are doing in India, spreading disease as we literally are, we are going against the spirit of the proclamation of the Queen. As far as the women themselves are concerned, all the Hindus look on the individual as a spirit and not a body. You may examine their bodies, for they do not mind in the least (of course this applies to the prostitutes only).

Lieut.-Colonel L. G. FAWKES, R.A., *p.s.c.* :—I think that we ought to hear both sides of the question, and not put down those who oppose the Contagious Diseases Act as mere faddists and sentimentalists. I should like just to read a letter from Mr. Archibald, who is a Master of the Supreme Court. He wrote to me this morning on the subject. He says :—“Officers forget that from the practical (not the moral or Christian) standpoint the C.D. Acts immensely increased immorality and incidentally extended disease, because the young men generally have always imagined the protection much greater than it really is, and thought it no longer necessary to exercise self-restraint. By this means, although you might point to

¹ Reprinted as Parliamentary Paper 197 of 1886, originally issued 17th June, 1886.

particular regiments and crews of men-of-war which benefited physically for a time; in the end the public suffered very seriously, and the disease, save in very particular cases, was made up for by its increase amongst the public generally. I imagine this was the ground upon which many men opposed the Acts who did not care much for moral or religious arguments. Others thought that an Act which was one-sided and only exposed women (not men) to examination was on principle hopelessly wrong. Generally speaking it does not pay to act upon the principle of doing evil that good may come. Most ample statistics were before Parliament when the Acts were repealed and all these Army points were considered. It may involve some increase of disease in the Army, but that is a small matter in comparison with an extended moral decadence in the nation and an undoubted increase of disease generally. Once you let your young men know that they are not to depend upon their own self-restraint, but that Government is providing for their immorality, it must have a most injurious effect upon the moral character of your youth generally. I hope I shall be excused for saying that I think officers generally have looked at the question from much too narrow (and Army) a point of view. It is a national question of much wider import, and the general moral physical health of the nation is, I am certain, better served by the repeal of the Acts, though the Army may suffer. From the religious point of view I should be strongly against the Acts. I do not believe that you can ever break God's moral laws and encourage vice, no matter how good your motives may be, with real advantage to anyone. I am writing in the greatest hurry and with no figures before me and only upon my recollection of the question which I studied at the time. I believe they gave it up in Paris after many years' trial, as a failure, and do not know if they ever took it up again." I interested myself very much in this question at Portsmouth, and the moral condition of our men at home does affect the question in India. When I first went to Portsmouth, about eight years ago, I went round to some seven or eight of the dancing saloons which were close to the Victoria Barracks, one indeed within a hundred yards; I went with a superintendent of police in plain clothes late at night, and I could not describe to you what I saw in those places. The police had represented at Portsmouth to the magistrates that one of these places ought not to receive a dancing license, and in spite of their strong representation it was granted. I went to the magistrate at Portsmouth who had to do with the licensing, who has since died, and he did not at first wish to speak to me on the subject out of Court; but when I told him I only wanted to know from him if what I had heard was true, he said, "What have you heard?" I said, "I have heard that the police have represented that the place should not receive a dancing license, and that in spite of that they have received it." He said to me, "Do not your officers go to the Town Hall to dance, and why should you object to the soldiers going to their own halls to dance?" I can only say I think we do need to educate public opinion, as we have heard this afternoon, but in another direction. These places exist upon soldiers and sailors; surely our recruits ought to be protected by the licensing authorities refusing dancing licenses to such places, or, failing that, by the military authorities placing them out of bounds.

Major-General DASHWOOD, in reply, said:—Mr. Wilson asked me why I did not say anything about Malta. I think he asked me that question because at Malta there was a very slight increase, and the reason of that is, that at Malta there are those C.D. Acts. Therefore, there is no use talking about Malta. They have the Acts there, and they do a great deal of good. I think we were at a little cross purposes about figures. He asked me why I say that about the year 1877 these regulations were tampered with and relaxed, and still more so about 1883, under Home authority with a corresponding rise in the admissions—my authority for stating the Acts were tampered with about 1877 is the statement of a medical officer who now holds one of the highest positions in England, and who was in India at the time. Mr. Wilson also wanted to know why I had stated the Acts

had been tampered with about the year 1883. I am glad to answer that question from a book which I have no doubt he will say is absolutely authentic, that is his own pamphlet. I have got Mr. Wilson's pamphlet here, the history of the sanitary failure, and on page 14 he quotes the despatch from the Viceroy and his council to the Secretary of State at Home asking permission to do away with the Acts altogether. Lord Hartington, the Secretary of State for India, in his reply, deemed it premature to repeal them, though he gave permission to suspend these Acts, which were suspended in Calcutta and elsewhere in 1883, when a high rise took place. I am not quite certain as to what I said in *Vanity Fair* with regard to figures; I may be a fraction wrong, or a fraction right, either way. It is not a question, however, to be decided by a fraction, and it is not worth making such a point any object at all. What I have always contended is, that these Acts undoubtedly were tampered with on these two occasions, and they had a very material effect in increasing the disease. Now, we come to what somebody said about caste. I do not think that gentleman understood what was meant by caste. Caste in India is a caste, that is to say, a man who is a tinker, his children are all tinkers, and his grandchildren tinkers; and a man who is a coppersmith, his children are all coppersmiths. The children become the same as their fathers. Prostitutes belong to *Punnia* caste, and they are all prostitutes. Mr. Gregory exhibited some maps to us, but I did not see how they in any way help his case, and his ideas as to the sepoys were ridiculous as they are mostly married men of a protected period. He also made his maps go up to 1890, but the Acts were abolished in 1888. With regard to what Sir Donald Stewart said, what I stated with regard to the Government of India, was that the Government of India suspended these operations some little time before they were obliged to do so by the Home Government. I am quoting *Hansard*, and anybody who gets *Hansard* of the 13th June, 1888, will see that the Secretary of State—I think it was Gorst—stated there and then that the Government of India had suspended these Acts already, and gave the reasons I quoted to-day. It is in *Hansard*, and if *Hansard* is wrong I cannot help it. Some other speakers spoke about the time before the Acts were in force. They did not quite say so, but they assumed apparently that before these particulars Acts were in force in 1869 it was an unprotected period. It was not so at all. In those days they had regimental and local regulations which had a very great effect, and got the disease down to very much less than it is now. Another thing, in those days men were very much older than the young men who go out now, and I am informed by medical officers who have been a long time there that syphilis and venereal diseases have increased to a very large extent in the Native population of India during the last thirty years. They were not only older soldiers in those days, but there were a great many more married men, and the Acts were carried out by the regimental authorities and the local authorities exceedingly well, and were probably more strict than the Acts carried out in the different cantonments. When these Acts were carried out, the disease was small in percentage to what it was afterwards. It is all a question of carrying out the Acts. They were sometimes carried out well and sometimes badly, and sometimes not carried out at all. Lord Ripon, when he was Viceroy, was entirely against these Acts, and showed no sympathy whatever with them. I was in command of a regiment at Poona in 1882, where I had a detachment at Satara, and at that place there were no regulations and no hospital. I made a report to the Commander-in-Chief, and he said, "I cannot do anything for you, because the Government of India has refused to spend any more money to carry out these Acts." There has been some talk about a breach of morals, but there is no use at this time of the evening in going into that part of the question. Somebody said something about temperance men. I was talking the other day to a distinguished officer who held a command in India, and he said the temperance men were laid up with these diseases a great deal more than those men who were not temperance soldiers. He said they spent their money in food and stuffed

themselves with ginger-beer, and there were a great many more in hospital than those who were not total abstainers from drink. I am not against temperance; I am not a teetotaller myself, and if a man cannot drink in moderation he had better be a teetotaller; but the man who has control over himself should be able to drink a glass of beer. I did not talk about the Sanitary Commission in India: it is the Army Sanitary Commission that sits at Home.

The CHAIRMAN (Lieut.-General Sir J. Hills-Johnes):—We have just listened to a very instructive but distressing statement made by General Dashwood, regarding the health of the British troops in India and in foreign stations, from which it appears that the British forces have suffered much from a malignant disease, which might have been kept under control if dealt with in an efficient manner by the restrictive measures which were in force then, but which were afterwards rescinded. I understand from what General Dashwood says, that he appeals for Government legislation. We have heard arguments to-day for and against such legislation. Personally, I hope that the former arguments will prove the stronger, and carry the day. It is my opinion that it will be a most unjustifiable act of indifference to a crying evil if the Government hesitates to take steps to lessen and, if possible, stamp out, this social plague. Referring to this disease, I think it is the bounden duty of the Government to take the same care of, and interest in, the British soldier, and of the inhabitants in and around cantonments, that they show towards their fellow-subjects when threatened and attacked by similar contagious and insidious diseases such as cholera, small-pox, etc. Immediate steps are taken to ward off such diseases, to isolate and to cure those afflicted with them. [*A voice*: "Men as well as women."] Why, therefore, does Government not tackle this terrible and insidious malady? The constitution of the Departmental Committee which is at present sitting and making inquiries into the effects of this evil is such that I think, after inviting them to peruse the proceedings of to-day, we may safely leave this troublesome subject in their hands, and in the hands of the Members of Parliament who take an interest in the matter. But I trust that the Commission will not limit their inquiries to foreign stations, but investigate into the effects of the evil at home. I earnestly hope that this Commission, in consultation with the chief medical officers, civil and military, will be able to bring forth a recommendation which will give promise of bringing this disease to the very smallest possible limit, and that their recommendation will meet with the approval of Government and of both Houses of Parliament. The Contagious Diseases Act anti-legislators consider that moral and religious instruction, healthy exercise, recreation, together with the improvement of the condition of the soldier, are sufficient safeguards against this evil. I am sure we all of us here to-day wish that those good influences were all that were necessary; but we do know, at least a good many of us do know, that these influences, excellent though they are, are of little avail unless they get the aid of restrictive measures. A committee has been proposed, but we have no time to go into that, and I must ask General Dashwood to invite gentlemen to serve upon that committee with the object of giving widespread information on the true condition of things. Now I am sure, however much divided we may be as to whether there should or should not be Government legislation, that you will join with me in thanking General Dashwood for putting those statistics before us, and for the able and judicious manner in which he has touched this troublesome question. It is a question that affects the public as well as the Army, and it is only right that both sides of this question should be expressed and considered. I shall be glad if a copy of these proceedings be sent to the Sanitary Commission for their information, and I am sure you will join with me in giving General Dashwood a very hearty vote of thanks.

HOW FAR PAST LEGISLATION HAS PROVED
EFFECTIVE IN SECURING THE HEALTH
OF THE TROOPS IN INDIA, WITH SUGGES-
TIONS AS TO FUTURE LEGISLATION ON
THIS IMPORTANT SUBJECT.

By Major C. B. MAYNE, R.E.

Thursday, 8th April, 1897.

Colonel A. G. RAPER, Assistant Quarter-Master-General,
Head Quarters, in the Chair.

I INTEND to deal with one feature only of the health of the British troops in India, viz., the great prevalence among them of venereal diseases, both as regards its amount and severity, and to point out its causes, why it has increased during the last thirty years, and the only remedial measures by which it can be effectively dealt with. The subject is of very serious importance, not only on account of the weakness it produces in the Army directly, but also on account of its indirect disastrous influence on the population at home and in India.

The statistics of the prevalence of venereal diseases in India during the last forty years are to be found in the report of Lord Onslow's Committee, dated 20th February, 1897. These statistics are given in the table¹ accompanying this lecture. This report also suggests certain factors or causes influencing the rise or fall of the statistics of the successive years. But, in addition to this, I have studied almost all of the official reports of various Sanitary Commissioners and Commissions that have been published since 1863 up to the present date, and the result of this study I propose to set before you to-day.

I will first direct your attention to the table accompanying this lecture. The statistics given in this table are all taken from the tables accompanying the report of Lord Onslow's Committee, or are deduced from them. These statistics I fully accept, as I have no cause to doubt their accuracy.

¹ For lecture purposes the statistics were given diagrammatically. Consequently for the words "diagram" and "lines" when met with, the reader must substitute the words "table" and "columns" respectively.

Column 15 shows the "admission" rate per 1,000 strength for *all* venereal diseases for the British troops in Bengal up to 1872, and for all the troops in India from 1872 to 1895.

Column 11 shows the "admission" rate per 1,000 strength for primary syphilis and venereal ulcer. Dates as before. Columns 9 and 10 give the statistics for primary syphilis and venereal ulcer respectively for the years 1887 to 1895.

Columns 12, 13, and 14 show the "admission" rates per 1,000 strength for secondary syphilis, gonorrhœa, and "other venereal diseases" respectively. Dates as before.

Column 15 is the resultant of the combination of Columns 11 to 14. It must be remembered that in each of these columns the same man may appear more than once in any given year, or may appear in two or more of the different columns in the same year. Prior to 1888 certain non-venereal diseases were included in the statistics shown in the table, and hence, previous to 1888, the figures in Column 15 should be lower than those given.

Column 2 shows the rise and fall of the number of British troops in India from the year 1872, and in Bengal only previous to that year.

Columns 5 and 6 show the rise and fall since 1872 of the percentage of new arrivals to the troops of the previous establishment and to the troops who have not been relieved.

Columns 3, 4, and 7 show the rise and fall since 1872 of the percentage of young men under twenty-four years of age, under twenty years of age, and under two years' service in India, respectively.

Column 8 shows the percentage of unmarried men in India, but its influence since the year 1872 does not appear to be very marked.

CAUSES AFFECTING THE PREVALENCE OF VENEREAL DISEASES AMONG THE BRITISH TROOPS IN INDIA, AND ITS VARIATIONS DURING THE PAST YEARS.

The result of my study shows that, so far as I can see, the prevalence of venereal diseases among our troops in India and its variation are the resultant of many factors, none of which are constant, and each of which has acted more strongly in some years than in others. I do not pretend to state *all* the factors that have influenced this complex and difficult problem, but I hope to be able to show you some of the most important of them. And of these many factors, it appears to me, on the strongest evidence, that the least important one is that of the presence or absence of regulation, *i.e.*, of the compulsory lock-hospital system in cantonments, with its regulated and periodic surgical examination of prostitutes, and their confinement to hospital or expulsion from cantonments if found to be diseased.

Now, looking at the table, the bare statistics shown on it are of little value without explanatory notes as to the circumstances that affect them. Consequently, I have divided the table into horizontal divisions, each division including a certain number of years. 1858 to 1861 are the four years succeeding the outbreak of the Mutiny in 1857. In 1865, lock

hospitals began to be systematically opened, and the system was gradually extended up to 1872. From 1872 to 1884 the lock-hospital system existed in full force. In 1885 and 1886, the system was somewhat relaxed by the experimental closing of fifteen lock hospitals, which were opened again in 1887, and in 1888 the system was nominally abolished owing to a resolution passed by Parliament protesting against the compulsory examination of women and the licensing and regulation of prostitution in India. But a subsequent Departmental Enquiry proved that system was still being enforced in a quiet way. And thus we may presume that the real abolition dates only from the summer of 1893. But this only gives a very rough outline of the least important factors influencing Columns 11 to 15.

The Great Rise in the Prevalence of Venereal Diseases in Bengal after the outbreak of the Mutiny.—This is officially stated to be due to the large influx of new and inexperienced troops, among whom was a very high percentage of young men. The British troops in Bengal rose from 21,000 in 1857, to 61,000 in 1858, and in 1858 there were among them 20 per cent. of young men under twenty years of age. As the establishment and the percentage of young men fell after the Mutiny was put down, the prevalence of the disease fell almost simultaneously. And here it must be noted that up to 1872 the conditions of service of the British troops in India changed but very slightly.

After the Mutiny was over, the prevalence of disease was considered by a Royal Commission that sat from 1859 to 1863. This Commission had before them the information that both lock hospitals and regimental establishments of prostitutes had been tried in India from the year 1805, and that the former had been abolished in 1835, because of their failure to effect their purpose. The Royal Commission reported that there were only two ways of dealing with the matter, viz., (1) repressive measures of police, and (2) marriage or moral restraint; and they recommended that both ways should be tried. This led to the re-introduction in 1865 of the old lock-hospital system, though at that very time the prevalence of disease was fast diminishing. The system is stated to have been completed by 1872, but during these years we find that the fall in the prevalence of disease was soon arrested, and after fluctuating for a few years, though with an upward tendency, it rose more or less steadily from 1876 to its present high value. But the rise was in reality more rapid than that shown in the table, for the reason that I have already stated.

After 1872, new factors, due to a change in the conditions of service, begin to enter into the problem. In 1870 the short-service system was introduced, but its effects only began to be really felt about 1876, and only reached their full development about 1886. In 1873 the proportion of unmarried men began to rise from 89 to 97 per cent. in 1895; before the Mutiny it was as low as 70 per cent. Columns 3 to 7 show some of the factors introduced by short service, which are (1) an increase in the annual arrivals of new and inexperienced troops, and (2) greater youthfulness of the troops. Famines occurred in 1866, 1873, and 1877,

causing corresponding rises in the prevalence of disease from the country women being driven by stress into the towns. The fall in 1877-78 is due to many troops being absent in Afghanistan, and among whom the prevalence of disease was low. Increases of establishment occurred between 1878 and 1880, and again in 1885 and subsequent years; and though in the interval a fall in the establishment took place, yet there was a steady rise in the proportions of young men and of new arrivals. Increases in the proportion of young men in times of increase of establishment are usually due to a lowering of the standards for recruits, and thus combined with greater youthfulness we have a lowering of the physique and bodily constitution. In the latest report on recruiting it is stated that of late years the proportion of men who are annually discharged as invalids in the first and second year of service has steadily increased. These factors, as in 1858-59, acted in the direction of increasing the prevalence of disease, especially when the men were almost instigated to immorality by the official provision of means for it. The closing of fifteen lock hospitals in 1885—owing, as it is officially stated, “to the unsatisfactory reports of the working of lock hospitals in India”—combined with the sudden return of their uncured inmates into their respective local communities, would probably have had some effect in causing the rise in the prevalence of disease in 1885-86, but not to the full extent claimed by some, for in 1888 the C.D. Acts were nominally repealed, and a new Act brought into force in January, 1890, which, if it had any effect on the fall of 1891, did not prevent a rise in 1890. And further, an official enquiry made in 1893 proved that the lock-hospital system was actively in force, although supposed to be repealed.

Now, in dealing with any variable statistics, we must remember that in the long run they fluctuate above and below a series of mean values, and that it is this latter series that is of real importance to us, because the general course of the rise and fall of the statistical series of *data*, showing the influence of the chief factors at work, are of greater importance than single and local cases of rise or fall, showing the influence of special and temporary factors at work. The figures representing the series of mean values are given in Column 16, and are very instructive, especially when we bear in mind that for the years prior to 1888 they should be less than those stated. The influences of special factors should be measured by the rises or falls above or below this mean series, and not by the total rise or fall of each separate variation. Now, as regards the table, Column 14 has no very marked changes during its gradual fall, and nor has Column 13 during its gradual rise, except in 1878. Column 11 has sharp movements in 1878, corresponding to Column 13, and also in 1885-86, and again in 1888 and subsequent years. Column 12 only begins to rise seriously after 1884, but has no very marked variations during the rise. Now, the general rise in Columns 11, 12, and 13, after 1884, is only to be expected from the concurrent increases of establishment and of the percentage of young and immature men. Now, Columns 11 and 12 share in the same movement in 1878, showing the same causes at work in each; but as these columns do not have similar movements in 1887, it shows that

special causes were at work then, independent of the lock-hospital system. And this is all the more certain as moral and immoral influences cannot be shut off at will, especially by any physical machinery.

But now let us turn to the official reports on these statistics. From 1865 to 1868, very hopeful opinions are uttered for the future; but after this we find it recorded, with almost wearisome reiteration, that the lock hospitals had failed to produce any reduction in the prevalence of disease, and in 1876 and 1877 the insecurity afforded by surgical examinations is pointed out, and it is questioned if the system is not injurious on that account. But with the successive records of failure, the cause of failure is also noted, viz., the prevalence of clandestine immorality in the native community, among whom disease is terribly rife. Increased police powers, stricter registration, and enlargement of cantonment areas were all tried without success. The segregation of the registered prostitutes to prevent their consorting with native men, and so contracting disease, was tried without success. The women disliked the degradation of being examined and so tried to avoid it, with the result that only the lowest and most helpless women submitted to it. The increase of disease in cold weather and during the marching season is noted more than once, and in the latter case attributed to clandestine immorality with the country women, among whom disease is prevalent. But before 1888, the year that the Acts were nominally repealed, and even before 1884—that is, before any lock hospitals were closed—the official reports again and again point out the rise in the prevalence of disease among our troops, even when the C.D. Acts were in full working order, and that the prevalence of disease is due to other causes than the presence or absence of lock hospitals, which formed the least important factor of the problem. And yet during all this time regimental establishments of prostitutes were in existence. Surgeon-General Cunningham, who was Sanitary Commissioner in the Government of India from 1869 to 1885, was of opinion that the lock-hospital system was calculated to do much mischief, in that it put into the hands of the police a means of oppression and extortion, and was demoralising to the soldiers themselves. It is also frequently noted that the *evil is a moral one, and can only be effectively dealt with by the moral elevation of the soldiers—that is, by moral means.*

The extraordinary variations in the annual statistics for the same station, and in those for different stations for the same year, point to the conclusion that very much depends on the moral tone of the various units located in the various stations. This conclusion is enforced by the startling changes that occur in the statistics for disease in our foreign stations outside of India, especially when their units comprising their garrisons, which are usually small, change.

The effect of environment is also very frequently noted. The purer the environment or the greater the difficulty in practising immorality, the less is the amount of disease. This is only the natural consequence of the evil being a moral one, and indeed is a proof of it.

I frankly confess that there seems to be considerable difficulty in accounting for the specially great rise that has lately taken place in the

amount of the syphilitic forms of venereal diseases, and in their sharp variations. Increase in establishment and in the proportion of young and immature young men would account for a certain rise in Columns 11, 12, and 13, but Column 13 is not affected in the same way as Columns 11 and 12. This shows that special influences are at work as regards the prevalence of syphilis over and above the more general influences. In the memorandum of the Army Sanitary Commission just issued, it is suggested that the late great increase of the various kinds of diseases is due either to an increase in the number of low-class women with whom the British soldiers consort, or on account of the absence of a compulsory lock-hospital system. But as the practice of clandestine prostitution by the native women, among whom venereal diseases are admittedly very prevalent, has been so frequently stated to be the principal cause of the inefficacy of the lock-hospital system, these suggested explanations seem to be of no real value. Besides the factors of numbers of troops with a high percentage of young immature men and of new arrivals, the real explanation must be sought in the fact that any long-continued infringement of a moral law brings about, in time, with a gradually increasing rapidity, its own punishment, so as to compel the sufferers to return to the keeping of the law.

The same memorandum admits the frequently emphasised failure of the compulsory lock-hospital system, but asserts that it checked the increase of disease and mitigated its severity. To check increase, that is, to diminish the rate of increase, is no remedy. It merely keeps off for a time the day of reckoning. And I do not see how, in the face of the fact of the prevalence of clandestine immorality in a diseased community, a lock-hospital system alone can mitigate the severity of the disease.

The comparison of the bare statistics of disease in our Army with those of the Armies of foreign nations is most misleading, unless account is taken of the differences in their respective conditions of service, and of other environment factors, for nearly every difference bears on the question. But foreign experts complain, like our Indian ones, that clandestine immorality is the chief cause of the prevalence of disease.

SUGGESTIONS AS TO REMEDIAL MEASURES FOR THE FUTURE.

In any attempt to deal with the consequences of immorality, it must always be remembered that the whole subject of immorality is not merely a medical question : it is primarily a social question dealing with human nature in its entirety; and, therefore, as in our own lives, medicinal preventatives and cures only play a subordinate part in it. Once recognising the problem as a social one, then it becomes evident that we must seek for fuller and more exact information than we have available at present on the moral tone of the various units and its variations, and on the environment in which the units are severally located ; since these two factors have a powerful influence on the prevalence of disease. We want to ascertain the life history of the various units as they move from station to station, and during their stay at any one station, and the environments they each successively inhabit, and the changes that may take place in

their environments. This special information is just as much required as the more general facts of strength of establishment in successive years, with its percentages of young and immature men, new arrivals, etc.; and, moreover, it should be recorded for as short intervals as possible. Yearly intervals are far too great to be of any real value.

These points refer, however, to what should be ascertained in the future; what we want at present is to know how to act now, in the light of the information that we do possess. I fully admit the difficulty of the problem, but this arises from its social character, of which the military and medicinal aspects of it are but subordinate parts. It is forgetfulness of the social character of immorality, and the universal failure of repressive physical machinery to deal with it—a very natural consequence from the very nature of the problem—that have produced a tone of despair as to the solution of the difficulty. But such a tone of despair can only be caused by looking at the weak side of human nature. However, the same nature has a strong side also when placed under proper conditions and good influences. I do not believe that the “first” word has been properly said on the subject, let alone the “last” word.

The first principle to guide us in the future is the fact that the problem we wish to solve is a social and moral one at basis, and can only be effectively dealt with by social and moral means. Any legislation providing security *beforehand* against the consequences of immorality cannot but have a debasing and immoral influence. This does not prevent remedial measures being taken to provide for a subsequent cure.

The second principle to guide us is the fact that vice is not a necessity either for health or military efficiency. Men are human beings, personally responsible for the keeping of the moral laws imposed by the Author of all being, and undoubtedly the hygienic laws are part and parcel of the moral laws.

The third principle to guide us is the fact that it is not the duty of Government to make it easy for men to practise vice.

The fourth principle to guide us is the fact that it is the duty of Government to make equal regulations and laws for both men and women. Consequently, if immoral women are to be placed under special laws as a discouragement to vice, then the men (civilians as well as soldiers and sailors) who consort with them must also be subjected to the same laws. It is folly to suppose that soldiers alone are immoral, or that they first learnt immorality in the Service; though, under the conditions in which they have to live, it is only natural to expect that such immorality will manifest itself more openly.

As to what can be done by Government legislation, the conclusion forced on me, by the facts and reports that I have stated, is that very little can be done by such means. Physical force is no remedy for social and moral ills, and all official regulative machinery only seems to disastrously lower the tone of society as to the evil of immorality and to so degrade the unfortunate women subjected to it as to make it difficult to reform them. Clandestine immorality, the insecurity afforded by surgical

examinations, and the failure to reach *all* the men consorting with prostitutes, undoubtedly caused the failure of the old C.D. Acts in the past, and would also cause their failure again if ever re-introduced. And this failure was contributed to by the false sense of security they gave the soldier, who was also almost invited to practise vice by what he considered Government provision for it. The great fall in the prevalence of disease at home since the abolition of the Acts does not seem to be considered by many.

The suggestion to include venereal diseases under the same legislation as is now applied to other contagious diseases is surrounded with great difficulties as soon as we approach the question of application. Venereal diseases differ entirely from other contagious diseases in their origin and manifestation, and the whole difficulty lies in the difficulty of discovery and in the application of the law to all men as well as to all women.

Voluntary hospitals are reported to have failed in drawing venereal patients to them. But on this subject I do not believe that the last word has been said. Have we tried to force the patients to accept our social customs and views while in hospital, or have we first consulted their national and social customs and views? Further, while they were in hospital were they justly treated by the hospital staff? These are important questions raised by the evidence given by various official reports.

In my humble opinion, the best action that can be taken by Government in the matter is to create for India a special long-service Army. This would lower the percentages of young and immature men and of new arrivals, permit of a greater percentage of men being married, and ensure a large proportion of men experienced to the Indian climate and to the customs and habits of the people.

It is only in the Army itself that we can properly apply the principle of dealing with a moral evil by moral means, that is, by surrounding the men with controlling restraints and occupations, by minimising the temptations and opportunities for vice, etc. As "Actions are but thoughts in motion," if we control the thoughts we can control the words and actions that flow from them. Man is formed of body, soul, and spirit, *i.e.*, with bodily, intellectual, and moral (including religious) powers and appetites, all of which should be exercised and satisfied in a healthy and proper manner, and without injury to the like requirements of others, whether they be men or women. With these preliminary remarks, I would suggest that the following methods be tried; others may be suggested that have not occurred to me.

Efforts should be made to check the mass of pernicious pictures and literature that floods the barrack-rooms, and also the filthy and immoral language so prevalent there. I must say that I have always regretted the removal of sergeants from barrack-rooms on this score. Small libraries of selected works might be placed in guard-rooms for the use of the men waiting their turn of duty. I think that we are greatly in want of an Army Religious Magazine, which, of course, can only be started by private enterprise. Addresses on purity and hygiene should be very

frequently given by the chaplains and other ministers, by the medical officers and other qualified men, to show that manhood means service on behalf of the weak, and not the debauchery of those who should be protected and cared for as God's best gift to man. If music-halls are provided in barracks, so should church-rooms be. And we also want an Army Purity Society, organised on regimental lines, like the Army Temperance Association; in fact, I should like to see the two objects of morality and temperance taken up by the same association—for morality, in its highest aspect, includes temperance. Perhaps even a distinctive badge or button might be permitted, as the desire for such distinctive marks seems innate in our human nature. Notices might also be placed in barrack and guard rooms, telling men the various means by which they can conquer the lusts of the flesh and preserve their manhood in its integrity.

Again, in the giving of promotions, appointments, and characters on discharge, a man's medical history sheet should be consulted as well as his defaulter sheet. If punishments are inflicted for the contraction of disease, then periodic examinations of suspected men must also be resorted to, to prevent concealment of disease, especially at such times when disease is very prevalent in a unit. Special privileges should, of course, be given to men of known good character; but in determining the meaning of "good," I should include morality as well as temperance and discipline. I am afraid that certain music-halls, and the taps placed about camps, the use of which is explained in "Orders," are not altogether conducive to morality.

Something may possibly be done by keeping improper characters away from the vicinity of barracks, and by placing houses and areas of bad repute out of bounds. But as these areas are small, and clandestine immorality prevalent, such remedies cannot be relied on to effect much good.

One most important means for promoting morality is the provision of acceptable and agreeable occupation for the men in their spare hours, either in the shape of work or games. I do not know whether it is possible to introduce evening technical schools into the Army, both to occupy the men during the most critical time of the day and to train them to some useful career for the future.

I have always thought that much control might be had over the men by having a scale of pay for all ranks based on both length of service and conduct.

Lastly, I would refer to the enormous influence that could be brought to bear on the question if the corporate influence and example of the officers of the Service acting as a body (from the Commander-in-Chief to the last-joined subaltern) were actively and openly exerted on the side of morality. If all the past efforts to control the consequences of immorality had been spent in promoting morality, we should not now have been face to face with the great evil confronting us at present.

In speaking of moral methods, I would lay great stress on the work of the Army chaplains and other ministers, and of the Army

Scripture-readers, who should be given greater facilities and opportunities for carrying on their self-denying work. Morality and religion are as closely combined as the body and the vital principle within it. Morality without religion is a corpse, and religion without morality is a ghost. Purity of mind and character is the one essential requirement for men to see the Divine and the Divine activities all around them, and to realise the necessity of their voluntary correspondence to the eternal verities and laws under which they have to live—physical, physiological, hygienic, moral, and religious. We cannot be hygienically right and morally wrong at the same time. Sin and vice are transgressions of law, or lawlessness. And we, as a nation, cannot avoid the charge of hypocrisy if we daily acknowledge the Divine Sovereignty in Parliament in the prayers said there, and in the Army with our “parade” services, and then deliberately proceed to break His laws, and encourage, or even tolerate and regulate, lawlessness. Is the triple Sign of the Cross—the highest symbol of duty and service and self-sacrifice for others—on our national flag to be void of all meaning to us ?

CERTAIN STATISTICS CONCERNING THE BRITISH TROOPS IN INDIA.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Year.	Average strength of Troops.	P.C. of young men under 20 years of age.	P.C. of young men under 24 years of age.	P.C. of new arrivals to previous estab. in India.	P.C. of new arrivals to troops left in India.	P.C. of men under two years' service in India.	P.C. of unmarried men.	Primary Syphilis.	Veneral Ulcers.	Total for Primary Syphilis and Veneral Ulcers.	Secondary Syphilis.	Gonorrhoea.	Other Veneral Diseases.	Total for all Veneral Diseases.	Approx. mean figures for total of all Veneral Diseases.
PERCENTAGES.								ADMISSION RATE PER 1,000 STRENGTH.							
<i>For Bengal</i>								<i>On'y.</i>							
1857	21288													149.6	
1858		16.0												261.0	
1859	60977													359.0	
1860	48318									118.7	25.8	106.1	68.2	318.8	
1861	42977									140.4	28.7	116.9	66.2	352.2	
1862	43541									116.4	26.9	101.6	62.0	306.9	
1863	41471									98.1	30.2	94.1	58.0	280.4	
1864	40385	2.42								87.4	33.1	86.7	48.2	255.5	
1865	37528									64.8	28.7	80.8	40.5	214.9	
1866	35100									64.6	25.5	80.6	35.6	206.4	
1867	34603									51.4	23.7	59.7	25.4	160.2	
1868	31560									56.2	25.4	81.3	31.0	194.0	
1869	34624									63.8	23.0	88.4	25.9	207.1	
1870	33373									?	25.0	88.7	?	194.8*	
1871	35071									73.3	24.2	96.1	28.8	222.4	
1872	36591									62.3	22.8	87.4	24.6	197.2	
<i>For All India.</i>								<i>India.</i>							
1872	58694	6.88	39.2	14.0	16.2	33.7	88.68			61.4	22.4	80.3	26.8	191.0	190
1873	58816	4.90	38.7	14.7	17.8	31.7	88.74			53.4	20.4	81.2	26.7	181.7	194
1874	59253	3.13	37.5	13.2	15.1	25.9	88.90			67.5	25.2	87.5	37.2	207.5	199
1875	59308	2.10	33.5	12.9	15.6	29.1	89.20			67.1	25.1	89.1	35.2	213.5	205
1876	58506	2.00	32.9	14.1	16.6	25.5	89.63			59.8	23.9	83.4	26.8	203.4	212
1877	58082	2.30	33.5	15.9	19.5	25.2	90.30			65.2	22.1	108.5	28.6	224.4	220
1878	56064	2.55	35.2	23.3	29.3	28.9				95.4	22.1	143.4	30.7	291.6	220
1879	57810	3.87	39.1	22.3	27.2	32.1	92.41			81.6	24.1	116.9	30.7	253.3	239
1880	60034	2.52	40.7	21.7	28.7	33.4	93.64			87.4	23.0	105.9	32.7	249.0	250
1881	58414	2.15	42.5	17.0	21.0	38.9	93.64			92.0	23.1	107.3	37.2	259.6	262
1882	57198	3.37	40.6	16.9	21.1	33.1	94.06			87.6	23.2	119.8	34.9	265.5	276
1883	55454	2.68	41.3	23.0	29.9	32.3	94.57			87.2	23.5	125.5	35.1	271.3	292
1884	55349	2.77	44.9	21.3	25.0	36.2	94.80			90.2	24.4	144.2	34.7	293.5	311
1885	57116	4.27	47.8	30.6	39.5	36.6	94.95			122.1	28.7	159.3	34.5	342.6	333
1886	61750	5.17	52.0	18.6	21.9	38.8	95.77			157.9	33.3	133.2	41.2	385.7	358
1887	63924	5.05	52.0	17.2	19.1	35.2	96.10	75.5	66.6	142.1	29.4	151.3	38.5	361.3	386
1888	68549	3.17	50.0	17.8	21.4	32.4	96.16	72.1	70.0	142.1	32.4	179.7	18.0	372.2	410
1889	69266	2.93	49.0	17.7	22.0	33.0	96.3	134.3	90.9	225.2	51.2	178.0	7.1	481.5	430
1890	67823	2.86	50.0	20.4	26.0	32.0	96.40	135.6	85.1	220.7	66.3	172.9	43.7	503.6	448
1891	67090	2.64	51.0	21.7	27.1	32.0	96.30	104.0	55.2	159.2	60.0	150.2	31.3	400.7	458
1892	68137	2.94	51.0	22.8	28.5	34.0	96.64	102.6	58.5	161.1	57.8	158.9	32.0	409.9	466
1893	70091	3.03	53.0	21.3	26.6	36.0	96.71	129.3	81.3	213.6	61.6	182.4	8.4	466.0	472
1894	71082	2.75	54.0	22.2	28.5	34.0	96.71	173.0	75.1	248.1	74.6	188.7		511.0	476
1895	71031							174.1	64.9	239.0	84.9	198.4		522.3	479

* These numbers are approximate only, and have been determined from a graphic delineation of the disease statistics.

† It is suggested that this figure should be 213.8.

Colonel F. C. KEYSER, C.B. (Half pay):—I did not expect to be called upon to commence this discussion, because what I have to say does not go very far into the matter. I will leave all questions of statistics and the stumbling over of figures and maps to other people who are more competent to deal with them than I am, and I will restrict myself to the few observations which the lecturer has made upon the behaviour of officers and discipline in various regiments. Major Mayne has headed his lecture : "How far Past Legislation has Proved Effective in Securing the Health of Troops in India." Now, when we come to the remedies suggested by him at the end of his lecture, they are entirely confined to skirmishing around Chatham and Aldershot. Now, I hardly think that is fair, because when we first started this agitation we confined ourselves entirely to India, and did not suggest any remedial measures for England or any of our Colonies. The lecturer talks about flooding the barrack-room with pernicious literature. That is impossible in India. As far as I know in India—and I have had some experience, as I commanded a battalion there—the control of the barrack-room literature is entirely vested in the commanding officer, adjutant, sergeant-major, and perhaps a sub-committee of non-commissioned officers ; and I am perfectly certain that every newspaper, every print, and every document that goes into that reading-room is exactly of the same nature as would be found in the officers' mess, and I defy anyone to say that any officers' mess has any pernicious literature in it. As to music-halls, of course, as those well know who have been in India, they are an impossibility there ; they do not have such things. Whatever we do get up for the benefit of the soldiers is entirely got up amongst ourselves ; the officers and men join, and if we err on any side, it is that the entertainment is too feeble and harmless. As to the giving of promotion by a man's medical history sheet, that would be obviously unfair ; in fact, I cannot see how the lecturer can possibly reconcile with facts what he calls the self-brought punishment—punishment following the crime—when he says that the disease has been sent by the Almighty to punish men. If that is so, I can only say that the Almighty is very unjust, because the punishment falls upon the innocent, and when it does fall it is frightfully heavy. It does not simply fall on those who have committed sin. What we contend, and what we would most strictly and carefully and forcibly bring to your notice is, that the punishment that follows upon those yet unborn is what we must look to and consider, and try our utmost to prevent. As to the influence that should be brought by the example of officers and others, I can only say, from my own experience, that the officers do their very best to persuade the men ; they talk to the men, and tell them the dangers they run ; but, good gracious me ! we are all men here, who have been young ourselves, and we know what young men are. How can you control a young man full of spirits—and beer, perhaps—and who goes out of an evening and will enjoy himself ? Whatever our example and our talk may be, just walk about the streets of London and see your own brothers, look at your own relations, look at everybody ; see all the young fellows about you, do they control themselves ? Nonsense. All this has been talked about since the days of Adam. In every chapter of the Bible you find it talked about ; and are we going to alter the thing all of a sudden now ? It is utterly impossible. The only thing we can do is to try and mitigate the fearful evils which follow. With regard to the talk about the Army chaplains and places for church-rooms, why, in every barrack in India now there is a church-room or school-room—at least in every one that I have been in—where the chaplain can have as many men as he likes at any time of the day ; and he is always met by the commanding officer in every possible way. From what the lecturer has said, I am almost afraid he has never been in India himself.

Major MAYNE :—Yes, I have.

Colonel KEYSER :—Not very lately, I think ?

Major MAYNE :—No.

Colonel KEYSER:—I am perfectly certain that had Major Mayne been there recently he would not have condemned, by implication rather than outright, all the various measures which the officers have taken, and still take, in trying to prevent this disease. I could say a great deal more, gentlemen, but there are a great many others who can speak much better than I can on the subject. I have only tried to vindicate the position of the officers, who have endeavoured to do their past, and who, I am sure, will do so in the future.

Sir HENRY S. CUNNINGHAM, K.C.I.E. (late Puisne Judge, High Court, Bengal):—I am sure we are all very much obliged to Major Mayne for the care he has taken in preparing this lecture, and the opinions which he has offered us. Our gratitude would have been still greater had he been so good as to give us, in his exposition of the Secretary of State's Despatch and the Memorandum of the Sanitary Commission, the real result of those two documents. He will, perhaps, forgive me for saying that it is an attempt to mislead his audience and to mislead the public, when he addresses us for an hour on the subject of these two documents, accepting their statistics, basing his argument on them, and yet altogether keeps from the knowledge of his audience the main facts that those two documents go to establish. With regard to the Secretary of State's Despatch, the whole of Major Mayne's argument was directed to saying that the conclusion of the past proved that the restrictive and protective measures which had been in force were perfectly useless. What the Secretary of State says is, that the close connection between the abolition of those measures of restriction and protection, and the increase of disease, especially syphilis, is absolutely demonstrated, and "that relation is the relation of cause and effect." With regard to the Army Sanitary Commission, Major Mayne's contention follows the precedent of Mr. H. J. Wilson and other gentlemen, who have for years been basing their arguments upon the memoranda of the Commission. Now, what is the real fact? We all know that there was a strong power at work—the influence of a particular individual—for some years in India, and afterwards in the Army Sanitary Commission, which led that body, year after year, to go on saying:—"These restrictive and protective measures are of no use." What has happened? Not one word, so far as I can gather, has the lecturer said upon the subject. The Army Sanitary Commission began two years ago to waver in their opinion. At one time, in 1882, they said, in the document the lecturer has referred to:—"It is quite clear these measures are failures, and they cannot be recommended as a sanitary measure." Years have gone by. The terrible calamity, that the lecturer had demonstrated on the chart before us has taken place. Syphilis has something like doubled in amount, secondary syphilis has quadrupled, and all these horrors that we hear of at Netley have been brought about. The result has been that the Army Sanitary Commission has completely changed its view. It says:—"We did once think the lock-hospital system a failure; we now think those measures—though they may, in one sense, be called a failure, in that they did not do all that we hoped in checking disease—did exercise a most sensible effect in checking the growth of the disease, and to those measures you must go back." I hope I have not been discourteous in referring to what I feel most strongly—the constant reference that is made, especially in Mr. H. J. Wilson's paper, to the "sanitary failure," as it is called. He must forgive me if I say that a greater mass of garbled quotations it has never been my bad fortune to peruse. I will mention one instance alone, and I shall be glad if Mr. Wilson will address himself to it hereafter. He quotes from that very memorandum of 1892 several sections consecutively. One of those sections he only quotes a part of. He sets out the paragraphs which dwell on the failures of the protective system; but he omits from one of the paragraphs which he quotes the advice which the Army Sanitary Commission give. They say:—"We most strongly think that when a woman is known to be diseased and will not go into the hospital and be treated there, she ought to be turned out of the

cantonment." Mr. H. J. Wilson and his party have induced the Secretary of State to act in defiance of that advice; if he had quoted the paragraph in its entirety, he would have betrayed the fact that an important measure of protection was earnestly and persistently urged on the Secretary of State by the very authority whom he is quoting in support of the contention that measures of protection are useless. I am glad to leave the controversial part of the subject, although I really think, if no one takes notice of these things, the public would be left under a delusion. In these disputes it is a great thing for the disputants to ascertain their common ground. Now, what is the area of agreement between us and those who differ from us? I think it is larger than some of us imagine. We all of us, I am sure, feel the same earnest desire for the welfare of that noble Army, by which our Indian Empire was won, and by which it is sustained. We all of us fully appreciate and cordially desire the success of those measures of amelioration to which the lecturer has alluded. Every improvement, every occupation, every new interest, every amusement, every opportunity given to the chaplains, every encouragement to do good, everything that can be done to benefit the soldier, physically and morally, we are all agreed upon; and we all rejoice to know that never in the history of the Indian Army has that Army been more temperate, more well-behaved, more free from violence or insubordination—in fact, more what an Army should be—than our Army in India is at the present day. That is Lord Roberts's own view. Then we are all agreed that nothing we do in the way of administration must have the effect of breaking down the distinction between right and wrong, least of all of assailing the purity and sanctity of women, which we all feel lies so close to the foundation of social well-being. If I might venture to give another piece of advice to the assailants of the protective system, I would say, Don't let them be quite so sure that religion and morality are all on their side. I hope we may venture to say that we who advocate that system care about good morals and esteem religion quite as much as its opponents do. What runs through all these pamphlets, and what has run through the lecture we have heard to-day, is a sort of assumption:—"We are the saints, we are the good people, we want to be on the side of good; you are a set of Sybarites and profligates, and so on, who want to pander to the vices of men at the expense of women." To show how baseless such a view is, I may refer to a letter I received this morning from one of the most estimable and justly esteemed clergyman that ever went to India, the Reverend Mr. Adams, the holder of a V.C., whom we all know and respect. No one has a longer experience or knows the soldier's life more thoroughly. In his letter there occurs this passage:—"I am afraid I have written very strongly, but I feel very strongly that a great wickedness was done in carrying that resolution of 1888 into effect." Now, that is the resolution of the House of Commons which practically put an end to the protective system, as Major Mayne is well aware. I mention that to show that it is possible that we might get on with this controversy better if the gentlemen, who object on moral grounds to these protective measures, would not think all of us, who think that they ought to be maintained, as sinners for whom no denunciation is too strong. Then, to go on with our points of agreement, we all feel, I suppose, that the present condition of things is insupportable. We all feel deeply the terrible prevalence of disease, its alarming growth, the indescribable horrors to be seen at Netley—we all feel deeply that reform of some sort is indispensable. But when we come to the cause and to the remedy, then our difference begins. With regard to the cause, I hope I shall not be misrepresenting the theory, but as far as I understand it the theory of those who object to control is this, that—contrary to the law of Nature in the case of every other disease—the tendency of venereal disease is to decline, that they droop; and, I suppose, would become extinct, if only wicked men did not come in and establish Cantonment Acts and Contagious Diseases Acts; and then they begin to rise. I do not know whether I am correctly stating it, but that is what I

gather to be the purport of Dr. J. Nevins' pamphlet. The theory seems to be that venereal disease will die out, if you will only let it alone. I need hardly occupy your attention longer on this point; I think the lecturer himself can hardly have realised what a really laughable theory that is. Without going into any further discussion, can any human being look at the diagram and see, in the first place, the great rise that took place in consequence of the sudden influx of young troops at the Mutiny; and, again, at the rise in 1877, when the effect of the short service began to operate, and doubt that the changes in our military system tended to increase the disease? Then there was a rise in 1885, when large numbers of young troops were imported, and protection was withdrawn experimentally from 13,000 men. Then comes the huge increase of 1888. Why? Because the system of protection was arrested. Then there was a remarkable drop in 1890, from 503 per 1,000 to 400. Why? Because the system of protection was put on again. There was something like a controlling force, and you find a drop of 100 per 1,000. Then, in 1893, comes the Secretary of State's direction to do away with all the other orders, and then you see the ratio flying up to its present altitude. Can anyone doubt that Lord George Hamilton is right when he says that the relation between the abolition of the protective system and the rise of the disease is the relation of cause and effect? Our view as to that is, that venereal disease, like any other, must be treated by the means revealed to us through our reason. If you want to stop a contagious disease, you must detect it at the earliest possible moment; you must arrest it at its source by all the means known to you. You must arrest the spread of contagion by segregating the sufferer until such time as he can return to society without danger of infecting it. That seems simple reason; and why the neglect of the disease should be considered moral, and its prevention immoral, I fail to see. With regard to the view that you must leave these diseases alone, because you would be encouraging immorality when you think of it, do those who profess it realise what it means? Its meaning is this—that Heaven has decreed that this judgment is to fall upon sin, and it is impious to interfere. You must let that judgment fall; you must let that dreadful lesson be taught—and this, I believe, is called the religious view! (No, no; and Yes, yes.) Now, let us see what it really means. That is the view that is put forward—(*A Voice*: By whom?) As I understand it, it is put forward. (*A Voice*: It is disputed.) It is said that you must not interfere with the judgment that falls upon men in this disease; because, if you do, you will be encouraging vice. (No, no.) The lecturer just now said that you may do anything to remedy disease after it has occurred, but you must not do anything before, because you will be thereby encouraging vice. With regard to that, I say it really means this:—"We know it to be the Providential government of the world, and the design of a beneficent and just Creator, that we take a frail lad away from his country and his home and his family, from every elevating and refining influence, condemn him to celibacy, and plant him down in an Indian cantonment; if he yields to a passion that all of us know to be next door to irresistible, that it is the will of Heaven that his sin should be visited with all the horrors we have heard of—the hell upon earth that Netley presents—and that the doom should fall not only upon the sinner but on the spotless wife and the unborn child. If that is the view that any gentleman here holds, I say let us throw it aside as utterly unworthy. In the first place, then, I say it is irreligious. That is the first ground of objection. In the next place, I say it is inconsistent, because you dare not follow out your own argument. Humanity obliges you to come to the rescue of these poor people, and to cure them afterwards. You have 36,000 men in the hospitals being treated for these diseases; you cannot refuse to cure these men. Such a refusal would be too monstrously inhuman. But what is the difference, morally speaking, between curing disease and preventing it? Those are two grounds—irreligion and inconsistency. Then there is a third ground—inefficiency. Look at the figures before us. You have

had your way; you have swept away every protection and control; you have allowed the prostitute to be the one person in India who is not under the rule of the cantonment magistrate; you have allowed contagion to run riot in your camps, and you see the result in the figures that have been given. Lastly, I was going to refer to the inhumanity of the theory, and to mention a fact which, perhaps, may not be within the cognisance of some of those who differ from us, that the sufferings of the unfortunate women, who now creep into the hospitals in India only in the last stages of the disease, are as deplorable as those that are experienced by our young soldiers at Netley. On the ground of humanity as well to that unhappy class of women as to our own soldiers, I beg you to insist that some efficient remedy may be applied to this terrible evil.

Major-General R. L. DASHWOOD:—The lecturer the other day wrote a letter to the *Times*, in which he said that in 1868 the fall which had taken place up to that date was arrested by the introduction of the C.D. Acts; that is to say, that the C.D. Acts increased the disease. You might as well say that the muzzling order for dogs would not only not decrease rabies, but increase it. I think that is an idea hardly likely to be met with outside of Hanwell. The Acts he talks about as coming into force in 1868 only applied to four large cities. With the exception of Madras, for the last three months in the year they were not in force at all. They were not extended to Calcutta until 1869, to Bombay until 1870, and to Bassein still later. Taking the six years prior to 1867, and comparing them with the six years subsequent, you will find that in the latter years there is not a rise, but an average fall of about 50 per 1,000. Major Mayne has said that bare statistics are of no use, whether you are talking of one single place, or a great number of places. We have heard a great deal about the Acts being in full force from 1865 to 1888. In 1878 was the first rise. All fluctuations that occurred are to be accounted for. The great majority were, to a certain extent, from the movements of large bodies of troops and concentration at large camps. Under those circumstances it is much more difficult to carry out regulations than in cantonments, where there are only one or two regiments. Therefore, under these conditions, the Acts were relaxed, and were not in full force. Then there is also the short-service system, which we all agree has had an evil effect. I should like to give you a sample of what can be done by the regulations if properly carried out. In Calcutta, in 1869, when the Acts were introduced, the figure stood at 250. In 1872-4, after the Acts came into force, the average figures went down to 79, and syphilis to only 13 per 1,000. When the Acts were done away with in 1883, the figures rose, so that in 1883-4-5 they were 390. Then in the time of Lord Ripon, who was most unsympathetic towards these regulations, it is very likely that the people in his time did not carry out the Acts effectively. In 1885, fifteen lock hospitals were shut up, and the increase of the disease, as stated by the Surgeon-General, was enormous, amounting to about 190 per 1,000 over the previous decade. Now, these statements are official facts, which cannot be controverted; they are not mere opinions given by officials in the teeth of facts whose statements coincided with those of a vacillating viceroy. The statistics are facts, and no amount of special pleading, manipulation of figures, *suppressio veri*, or keeping back of facts, can get over them. In 1888 the Acts were abolished. The lecturer says that they were merely nominally abolished, and he says that because of the majority report of the Commission which sat in 1893 and took evidence. Now let us see who were on that Commission. We have one of them here, and I hope he will not be offended by what I say. They were Mr. Wilson, Mr. Stansfeld, and Mr. Russell. Now, I suppose you could hardly have found three gentlemen in the United Kingdom in more deadly opposition to these regulations than they were, and as human nature is human nature, you can hardly suppose that their report would be without a tinge of bias. I have read the evidence, and certainly the way in which Mr. Stansfeld treated the hostile witnesses reminds one of Mr. Labouchere and Mr. Rhodes

the other day. I believe that none of these gentlemen had any experience of India at all, but they came to a conclusion with regard to these ten cantonments. There are over 100 in all India. They said that these regulations which had been abolished in 1888 had been carried on to a considerable extent. They did not say "up to the hilt," as Major Mayne says, nor did they say that the lock hospitals were "in active" operation all that time. The main point at issue was compulsory examination of women. They said that practically compulsion had been carried out. There was, however, a minority report of Sir Donald Stewart and Sir J. Peile, men who knew all about India, and they came to the conclusion that, except in a few stations—Mean Mir, Meerut, and Lucknow—where some things had been done that ought not to have been done, and at Mean Mir especially, where compulsory examination was carried on, such infringement of orders had not been proved. But that substantially the old lock-hospital system (which included compulsory examination, compulsory detention, registration, and licenses) had ceased to exist. Therefore, I say that neither Major Mayne nor anybody else who deals with this subject has a right to take the two years 1889 and 1890 as protective periods; to do so is grossly dishonest. In 1889 new cantonment rules were brought into force. In 1891-2 they had a great effect, and no doubt reduced the disease and gave a certain amount of protection. Major Mayne, in his lecture, has asked why, if these rules when introduced did so much good in 1891, they did no good in 1890. The same question was asked by the officials at home and answered by the officials in India. Now, it was said in one of the despatches, printed in Blue-Books, that the reason why these Acts had no effect in 1890 was that they did not come into force till the close of that year, and could not, therefore, affect the return for 1890. After that, in 1893, we know that all these regulations were done away with, and a large rise took place in consequence. We have heard something about the Sanitary Commission, and Sir Henry Cunningham has told us that they stultified themselves more or less. They said some time ago that these regulations were a failure. Now, they said they were a failure in so far as the operation of the measures did not protect the soldiers to the extent expected. They had expected that the disease would be reduced to a mere fraction. They added, however, that while the regulations had failed to bring about a marked reduction, they had exercised a very beneficial influence in checking the disease. What is the difference? The logical conclusion is, that the Acts did cause a considerable reduction. No doubt the remedy is not a complete one, but there is no such a thing as a full, complete remedy, barring alteration. At all events, it is much better than nothing. The lecturer says it merely puts off the evil day. What is the evil day? The evil day was when the Acts were abolished and the disease increased. The Sanitary Commission also say:—"Besides preventing, by timely treatment, venereal disease from assuming that virulent and destructive character which the reports received from Netley Hospital show it to have attained." That is the worth of the whole question. "If you do not treat a person soon, the disease becomes exceedingly bad." The Army Surgeon-General, in his report of 1895, stated that the majority of people affected with venereal disease were unfit for service; that the disease was of the most dreadful character, permanently reducing their health; that they were of no use as soldiers, and only a danger to the population when they came home. We have had a text quoted about the sins of the fathers being visited on the children. Now, there is another text in Jeremiah, which I should like to quote:—"In those days no longer shall it be said that the fathers having eaten sour grapes, the children's teeth are set on edge." Such an idea as that of posterity suffering in the way that has been mentioned is repugnant to our notions of what is right and just, whatever it might have been 4,000 years ago. It would not be considered now fair to say that a man was a thief because his great-grandfather was transported for highway robbery, or that another man is unworthy of belief because his grandfather was a notorious liar. With regard to

the question of the punishment of sin, one thing has been left out of consideration, and that is, that the greater sin—adultery—is much less likely to be punished by the disease than the lesser sin—fornication. And, further, that the horrible ruffian who violates a maiden has a complete immunity from suffering such punishment, while the woman his victim has not.

Lieut.-Colonel H. STANHOPE HOLMES (late Welsh Regiment ; Reserve of Officers):—I have only a very few remarks to make. I wish to express, as forcibly as I can, how much the British soldier at home and abroad owes to General Dashwood for having brought this matter to the front, and how great a benefit he has conferred on the British soldier all the world over. I have myself only just completed the period of command of my battalion in India. In the autumn of last year I wrote from my orderly room to the medical officer in charge of the station hospital, at Secunderabad, for information how many men there were in hospital suffering from venereal disease. His reply was :—"On the 7th August, last year, in my regiment there were 112 men in hospital, 67 suffering from venereal disease. On the following day, 8th August, there were 107 men in hospital, 63 suffering from venereal disease." This speaks for itself without any words of mine. I should like to mention another fact which took place a few days before I left India. A soldier applied to me for permission to marry a woman who was known to be most respectable and good in every sense of the word. Knowing that this man had lately been in hospital with venereal disease, I wrote to the medical officer in charge, and asked if he considered that the man was in a fit state to marry. His reply was, that he would not be fit for at least eighteen months. That, again, is a fact that speaks for itself. I need not say that the man was refused by me permission to marry. He has since gone home to join the Army Reserve, and may, for all I know, have married a girl ignorant of his state of health. The scenes I saw coming home on board ship are too horrible to mention. We all know the cruel sights which are to be witnessed by a visit to Netley Hospital. I can assure you that the venereal question gave myself and the other commanding officers many an anxious moment how best to combat the evil. But literally our hands were tied. I will not say more than to express what I know would be the wish of all ranks of my old regiment—their thanks to General Dashwood for the position he has taken.

Brigade-Surgeon ROBERT PRINGLE, M.D. (late Indian Medical Service):—I purpose to refer in my remarks to papers that have been published, and not to what has been placed before us by the lecturer on his chart. It has been said distinctly that the suppression of the C.D. Acts and the events which followed stand to each other in the relation of cause and effect. I admit that, Sir, fully and absolutely. If you make a small hole in an embankment—a rat-hole, for instance—as we have witnessed sometimes in Southern India, the water, as it rushes through, will swamp the whole district, and half the population, cannot check it while all suffer from it. If you tell people that there is such a thing as safe vice, and then suddenly tell them to halt, it will be of no use. That remarkable black line that the lecturer has referred to will go on rising until you can get a class of men to whom you can speak on the moral aspect of the question. I know the British soldier, I love him, and will do anything for him, and I know that he is amenable to an honest straight talk. I have seen the effects of the C.D. Acts when in their full swing, and anything more unutterably disgusting it is impossible to conceive. I reported on the subject ; but where is my report ? Probably still in the pigeon-hole. It is hard to say whether decency or sanitation was most outraged. I know, as an absolute fact, that gonorrhœa was produced owing to the number of men who cohabited with a single woman. That is the result of your Contagious Diseases Act. You will never stop it by these means. The fact is the British soldier has the knack, especially if he has a little liquor in him, of not doing what he is ordered in this matter. The whole strength of the C.D. Acts depends upon a man strictly

obeying discipline in the matter of lust. If he does not obey discipline in vice he throws the C.D. Acts and everything else away. Look at the surroundings of any military cantonment, and ask, How is it possible to carry these Acts out? These men go out and meet with the poor women, and after this find that they have got the disease. Then they go into hospital and there they charge one of the cantonment women with it. It cannot be said that this is not possible; I know it has happened when the poor woman has had nothing to do with it; the man has only wanted to shelter himself. We are told that that is safety. I challenge anyone to prove that any one of these women is safe if the woman in charge of the lock hospital has half an hour's notice that the medical officer is coming. There are other serious points that I might mention; perhaps the most serious of all is the question, Can we account for the terrible virulence of the present type of syphilis? I am sorry to say I think I can; it is due to leprosy. There is leprosy in these cases, unquestionably. I found a case in a London hospital, that of a poor man whom I had known at Roorkee, who contracted syphilis from a leprous woman, and who died subsequently of leprosy in this country. There was one medical officer—the late Sir William Moore—who held very strong opinions on the subject of the strange similarity of leprosy and syphilis; and I need not tell my professional brethren that with a syphilitic taint every disease suffers a certain amount of change, and there is reason to fear it is the same with leprosy. One speaker referred to some orders that were given by a medical officer warning the men, by suggesting to them how they should take precaution to prevent their being attacked with syphilis! The name of the officer was asked, and I could give it if necessary. He was an administrative officer in whose circle was a station called Chuckrata. As to the possibility of carrying out the C.D. Acts in any way whatever, I am prepared to discuss the question among my professional brethren, and I challenge them to prove that it is possible without the medical officer devoting an amount of time and examination to these women that would leave him time for nothing else. To say that these men are safe, is absolutely false. That black line, I maintain, will go up higher and higher. I repeat, you can do nothing until you get a class of men to whom you can speak, *i.e.*, who have not been demoralised by these C.D. Acts. I know soldiers perfectly well. I have seen them come to my hospital, and I know how to speak to them. I have said, "If you do get ill, come at once," for it is delay in these cases that has prolonged the illness. I am satisfied that if we speak straightly and honestly to the men we shall do infinitely more good than by telling them that it is necessary by making provision for it. Two authorities have been cited with regard to the necessity for health in the indulgence of this passion, and both were opposed to it. It is absolutely wrong to say that it is necessary. It is the most dangerous thing in the world to suggest this even, because it puts poor young men in a very difficult position. Let us by all manner of means strengthen them in every way we can. I know what soldiers' institutes and other agencies can do. For myself, I have retired from the Army, but I have never retired from the deep interest which I feel in the men, and I know that if we will only speak to them as we should, we shall do far more good than by attempting any system like that of the C.D. Acts.

Lieut.-Colonel A. T. WINTLE (Retired pay, late Royal (Bengal) Artillery):—I hope you will not mind my suggesting that as we are all more or less connected with India, we should look at this point either from a Brahminical or Buddhistic point of view. Assuming that we are all actuated by a love of truth, the whole truth, and nothing but the truth, and our sole object is either to make our men perfect or to eliminate suffering as much as possible, and I am sure that until you introduce the religious element you will never get to the bottom of the evil. Having done a little to throw oil on the troubled waters, I am now going to introduce an element of discord. Sooner or later the nation will have to decide whether to follow the Jewish system or the

Brahminical system. The difference is this. One trusts to an outside Saviour, and the other trusts to progress (Brahminism philosophy and religion are one) from within. For some years I have been studying the question of vaccination. My own objection to vaccination is that it introduces foreign matter into the system. Now, if you study Brahminism you will realise that the whole of that system, the caste system, is based upon the purity of blood. The idea of purity of blood will not allow any foreign matter to be introduced into the system. Vaccination was brought forward in April, 1840.

The CHAIRMAN :—I think this is travelling a little outside the sphere of the lecture.

Lieut.-Colonel WINTLE :—I wanted to prove, if possible, that the increase of vaccination and the increase of syphilis have gone hand in hand. Compare the dates of 1867 and 1871. I will tell you what I have seen myself. I read the other day in a book by Mr. Stewart on small-pox that cholera had followed vaccination. I looked back to my experience in India, and I found that at Meerut in 1860-61 we had small-pox followed by cholera in 1861. In 1867 at Morar we had small-pox, and that was followed by cholera.

The CHAIRMAN :—I think in view of the number of speakers who have sent up their cards, being desirous of addressing the meeting, we should confine ourselves to something that is more within practical legislation. I do not think Colonel Wintle is quite in order.

Lieut.-Colonel WINTLE :—As far as the suggestion of a badge is concerned, I do not think it will do any good. Years ago I used to wear a temperance badge, but it was sometimes like holding a red rag to a bull. May I suggest that these words should not be used in the discussion: "sin," "vice," "prostitution," "immorality"? After all, vice only means a fault; and who is there who is faultless? Sin is only a fault carried to excess. As immorality, after all, is only a question of the custom of the country. I would also suggest that instead of using coercion in this question, we should go on the opposite tack, and reward the men for health. Why not give prizes to men who keep out of the hospitals? That I think would have a much greater effect. The lecturer has suggested that the clergy should now be brought into this question. That I am totally opposed to. I think it is a fatal mistake. Do not allow the civil element to interfere with questions concerning the Army, because it will tend to discord. Let me tell you what I did, for I am certain that if the officers themselves would set the men good examples they would have no cause to regret it. About twenty years ago I was in temporary command of a battery of artillery, and just after I got the command a letter came from head quarters complaining of excessive drinking. I tried severity; but it did not answer. After that I brought down Mr. Gregson (a man whom you must know by name) to give a lecture, and invited the people in the station to listen to it. He gave a very good address, and at the end of the lecture invited men to come forward and take the pledge; but not one of them did so. I then set the example, and a few men followed. After that I changed my tactics. Instead of trying to prevent drinking I did exactly the opposite. I increased the facilities for obtaining drink. I threw the canteen open for the whole day practically, and tried it for twelve months. I never opened my mouth on the subject of temperance to the men during the whole of that time. Gradually the men took the pledge, and the amount of drinking decreased; the number of admissions into the hospitals decreased; crime decreased; and the amount of money put into the savings-bank increased. I then was absent from the battery for six months, and then rejoined for six months; but when I left the battery to go on service in 1878 there were more teetotallers in it than in any other battery in India. I am certain that if officers will set an example the men will be sure to follow it. I am sorry you did not allow me to speak on the question of purity of blood, for those who know anything of Brahminism must know that their system of caste depends upon it.

The Right Hon. Sir JAMES FERGUSSON, Bart., P.C., G.C.S.I., K.C.M.G., M.P. (late 4th Bn. Royal Scots Fusiliers) :—I will only say a very few words, because I do not wish to stand in the way of others who desire to speak. At the same time, I cannot abstain from standing up and controverting some of the main arguments which the lecturer has advanced. He has tried to demonstrate that to attempt to put down contagious disease by restriction has been a failure. Now, there is nothing like meeting an argument by a *reductio ad absurdum* ; and I should like to point out one or two instances which seem to me to prove the contrary. Before we adopted the Contagious Diseases Act in the Army, and before the more recent Acts in India, there was a committee of the House of Commons before which certain evidence was given—I refer more particularly to the evidence given with regard to the Island of Malta, where something like a strict Contagious Diseases Act had been in force for a very long time. There was an utter absence there of syphilis. Every woman had to be periodically examined, and disease was kept out of the island, just as rabies is out of Australia. Very much the same thing happened at Gibraltar. At Hong-Kong, where the Contagious Diseases Act was administered strictly—I see a gallant admiral present who will, I am sure, confirm what I say—there was hardly any syphilis at all ; but when the Contagious Diseases Act was removed, it was not long before ships were half crippled. When I went to Bombay in 1880, the question arose of putting the Contagious Diseases Act into force there. It was done under strict regulations. It was not the case, as the lecturer has said, that women were harried and interfered with unnecessarily by the police. There was a select police establishment for the purpose, under a highly competent and trustworthy medical officer. In the five years I was in Bombay there never was a single complaint of hardship alleged by any women, although nearly all the common women in that great city were brought under the operations of the Act ; and whereas the men-of-war which came into her harbour there had been nearly crippled by syphilis, I have it on the evidence of the commander-in-chief, and of the captains of the various ships, that there was an absence of syphilis on board. In the face of those absolute facts, is it possible to contend that these restrictive Acts produced no effect ? That they did not produce the full effect in other places only shows that the Acts were not properly administered. A brigade-surgeon just now said that you could never put down this disease until you have a higher class of men. No doubt that is much to be desired. Many of us wish to see a higher class of men brought into the British Army, and we want better inducements given to a higher class of men to enter, and then no doubt the conduct of the Army and its morality would be improved. But we must deal with the case as we find it. We know how the Army is recruited, and how it is composed. It is not possible that the class of men that get into the Army, five-sixths of whom at least belong to the lowest and least-educated class, could be sent away and exposed to every kind of temptation without yielding to the commonest temptation that affects humanity. You must deal with the case as you find it. Is it really seriously argued that in the face of humanity, as we know it, in the face of the temptations to which the Army is exposed, nothing is to be done to shield the men from this horrible disease ? At this moment every railway passenger that goes out of Bombay is examined to see whether he is suffering from the bubonic plague. That I read in a Bombay newspaper the other day. One native said that he had been examined eight times between Bombay and his home in Kattiwar. An examination for bubonic plague is going on there ; but though it is a terrible disease, and sometimes kills the patient, it does no harm to anybody else. Is it, then, a degradation to humanity, and a breach of morality, to examine those who have this horrible disease, which they propagate among their species and communicate to future generations ? The proof of the possibility of stopping, checking, and reducing this contagious disease is abundant. Is it our duty as religious men, and as not indifferent to the considerations of morality, to avoid altogether the prevention of a disease more horrible than the bubonic

plague, and which commits such unspeakable ravages upon poor humanity? I say the Government have done a right thing, and a courageous thing, perhaps—though I do not think their courage has carried them very far—in dealing with this question again. I trust and believe that they will be supported by public opinion, and I believe there are few members indeed of the gallant Services of the Army and the Navy who will not wish them success in their efforts.

Admiral of the Fleet Sir J. EDMUND COMMEREILL, V.C., G.C.B. :—I wish to speak on this subject simply from a naval point of view. I am one of those who would rather examine the sick lists of the Navy from day to day than the ugly illustration on the chart that has been brought before us, because I do not believe in it. I believe you may prove anything by statistics. I had rather deal with the matter from common sense. I know that when the Contagious Diseases Act was in force in Portsmouth, in Plymouth, in Sheerness, and other parts of the United Kingdom, the diminution of cases of venereal was enormous. I know that when the men went on leave for two or three days, and remained in a port where the Contagious Diseases Act was in force, we were pretty certain that they would come back healthy ; but I knew perfectly well that when they went away on eight or ten days' leave, and went to places where the Contagious Diseases Act was not in force, our sick list would be filled with venereal cases. It is a very pretty thing indeed, and, I dare say, a very good thing for a good many earnest men, to look at these things from a religious point of view ; but I think you must also look at them from other points of view. The question is, Have we not a right to stop contagious venereal diseases which are killing us, as a nation, just as we have a right to attempt to stop the small-pox, scarlet-fever, or any other diseases? I do not myself believe that the Almighty ever intended that we were not to help ourselves or to help all those who are under us. I remember a clergyman who made himself extremely active in getting the Contagious Diseases Act repealed, and I said to him one day :—"I suppose, sir, you consider yourself very fortunate in having got the C.D. Acts repealed," and he replied :—"Yes, sir, I am happy to say that I look upon it as one of the proudest moments of my life." "Well," I said, "whenever you see a man suffering from syphilis, whenever you see a woman evidently in the last stages of disease, though they might have brought it on by their own vice ; whenever you see poor little children, who have done nothing wrong to anybody, suffering from the vices of their father or their mother, you can lay it to your heart, 'I had a hand in that.'"

Mr. H. J. WILSON, M.P. :—I should like at the outset to be allowed to say what I have had occasion to say before, that my primary objection to the system of the Contagious Diseases Acts is based on moral and religious grounds. But I do not propose—I think it would, perhaps, be inappropriate this afternoon—to labour that point, because, notwithstanding all that the gallant admiral has just said, that statistics prove anything, it is the fact that our opponents base their support of these Acts almost entirely on statistics, as I think will be admitted by some of the gentlemen who have spoken to-day. I should like to say in passing that we none of us, I think, desire in the slightest degree to minimise the terrible effects of these diseases ; we none of us desire to say that they are unimportant. It would be impossible to do so. As to the rather sensational report that has been made by Lord Onslow's Committee in reference to Netley, we do not in the least degree dispute that those things exist ; we do not dispute their horrible character ; but what we do say, and what Major Mayne has been trying to prove (and I very much agree with him), is that this horrible state of things is the result of your system and of your encouraging men to practise these things by the sanction which has been given to them. (No, no.) That is my opinion. We are all giving our opinions here, and that is mine. Let me further say, in reference to Lord Onslow's Committee, that I think it is a very great pity that, in drawing up their reports and giving us those tables, they did not confine themselves to statistics and figures, which we have had given to us before, instead of launching

upon us a new set of figures that have never been given to us before and which we have no means of checking. One of these tables, at all events, is not to be found in the Army Medical Report, and is not to be found in Mr. Jeffreys' returns presented to Parliament for a number of years. As to the statement made by my honourable colleague Major Rasch, that the actual number of men amounted to three-fourths of the cases, I should like to see the figures in reference to that, as some of the statements that have been made within the last few days are of a different character. At all events, it is a mere estimate which we have no means of checking, and when you come to a question of statistics I think you ought to give us the means of checking every statement.

Surgeon-General A. C. C. DE RENZY, C.B. (late Indian Medical Service):—There are no reliable statistics on the subject.

Mr. H. J. WILSON, M.P.:—The gentleman says that there are no reliable statistics. I do not know whether there are or not, but I say if there are any they should be produced. Let it be remembered that when these Acts in India were brought into operation, the most sanguine expectations were held out as to their good results. There is a pamphlet here issued by an association of which the right hon. gentleman who addressed us just now is, I think, the chairman, which ignores these points that, I think, ought to have been faced. They quote from Sir John (formerly Mr.) Strachey. He said at an early period in this matter—as long ago as 1867—that no insurmountable difficulty existed in bringing about an almost complete cessation. Look at that diagram and see the state of things then. Further, it was said by the Sanitary Commissioner, in Madras, that a marked decrease might confidently be expected. That was in the report of 1866. Again, Mr. Strachey said, in 1867 or 1868, that it was reasonable to expect that an annual rate of 100 admissions per 1,000 would be reached without difficulty, and that it was quite possible that the rate might be reduced below 50 per 1,000. That was the expectation upon which it was started, and Major Mayne's diagram shows how far that expectation has been realised.

Major MAYNE:—It is Lord Onslow's diagram.

Mr. H. J. WILSON, M.P.:—Major Mayne says it is Lord Onslow's diagram. So that we have this expectation held out just as the expectation was held out that if the system was restored there would be a wonderful change. How is it that nobody has applied himself to these statements and shown how it is that those sanguine expectations made in 1866-7-8 have never been fulfilled, but that, on the contrary, disease has gone on increasing? I should like to ask another question. (*Voice: Question.*) I hope I may not be interrupted; I have not made a single exclamation of dissent. The only remark I made was to correct General Dashwood when he made an accidental slip of the tongue in reference to the date, 1885. I hope, therefore, that I shall be allowed to state my own views. I admit it is rather difficult when I have been attacked by name in a speech of twenty minutes to answer it all in ten; but I will do my best and rattle on as fast as I can. I want to know another thing, and that is, why nobody has told us why the fifty-seven hospitals that were in existence at the time when the Acts were supposed to be abolished have been closed. There were seventy of them, I think, and it was understood that they were to be kept open as voluntary hospitals. I am told that they have been closed, but they ought never to have been closed; they ought to have been kept open as voluntary hospitals. If fifty-seven have been closed, I want to know the reason why. If it is said it is because women would not go to them, then I ask, How is it that they go to mission hospitals, to Lady Dufferin's hospital, and not to these? It must be because there is something defective in the arrangements—at all events we are entitled to information on that point. One of the speakers quoted Lord George Hamilton's despatch, in which he says:—"It is perfectly clear that the relation between these various circumstances is a

relation of cause and effect." I have great respect for Lord George Hamilton as occupying a distinguished position, but we must be allowed to hold our own opinion on the subject. It is a mere assertion on his part ; we assert the contrary. I think it was Major-General Dashwood who said I and others had based our arguments on the Army Sanitary Commission. I repeat, I base my arguments on moral and religious grounds mainly ; but when I find the Army Commission making very strong statements pointing in the same direction, I feel justified in quoting them. Then I was charged by an honourable gentleman who spoke here, Sir Henry Cunningham, with having given garbled quotations. I have issued a little pamphlet, in which there is very little of my own, but a great deal of quotation. I have endeavoured to show exactly what the Army Sanitary Commission and other authorities have said from time to time, showing that the thing is a failure. These quotations are reduced in number ; they are cut very short, as I do not pretend to state the whole case. One gentleman finds fault because I have not elaborated my moral argument. I stated in the outset of that little compilation that that was not the time nor the place. I have not tried to elaborate the statistical argument ; I have merely quoted other people. I do not acknowledge myself guilty of garbling any single quotation ; I have been obliged to leave out a great deal. It was enough to show, it was my purpose to show, and my total object to show, that the thing was a failure ; it was not my business to introduce a quotation such as has been suggested to show some other things that the Army Sanitary Commission had recommended. But this I will say, I have done what has not been done either by Major-General Dashwood in his lecture or the pamphlet put forward by the Army Health Protection Association of which my right honourable friend is the chairman : I have given a reference to every quotation, so that people may ascertain for themselves whether the quotations are fairly given or not. I think that is a good thing to do, and a thing we should all do in dealing with a matter of this kind. Then I desire to refer to a remark made in reference to Dr. Nevins' pamphlet. I admit fully that Dr. Nevins in his pamphlet, and perhaps in more than one of his pamphlets, uses language which does to a certain extent justify the reference made to it—uses language as though the mere adoption of an Act of Parliament or a resolution of the Government of India at once made a difference in connection with this matter ; that declaring that certain things were to be done caused disease to increase, and declaring that certain things were not to be done caused the disease to decrease. I do not think that that is a wise argument ; I do not think it can be justified ; it does not seem to me to be a reasonable thing ; and so far as Dr. Nevins has expressed it, though I think Sir Henry Cunningham put it rather strongly, I dissociate myself from it. What I do say is this : I repeat that when a Government, when an authority of any kind appears to give sanction to vice, you will have, as Major Mayne has said, men thinking that there is a kind of permission to do it ; and then in proportion as you have vice you will have disease. Then I desire to disclaim entirely what was said about Heaven's judgment, that we were not entitled to deal with the disease because it was a punishment. That has been attributed to me in print and out of print, but I disclaim it, and I do not believe that it can be found in the writings of any one prominent or recognised advocate on the side which we take in this matter. Major-General Dashwood made another remark in reference to the Committee of 1893, of which I had the honour to be a member. It is true that Sir James (then Mr.) Stansfeld and I were opponents of this system. We were upon the Committee because we were opponents. Mr. George Russell cannot possibly be called a prominent opponent, but I believe his views were considerably influenced by what he learned on the Committee. Up to that time I do not know that he had taken any important part in the matter. But whatever the Committee did, and whatever doubt may be thrown on the evidence taken by the Committee and their report, I must refer General Dashwood to Lord Roberts' letter printed at the end of the report. Lord Roberts in his letter apologises to the American

ladies for what he had said about them, and admitted that their statements were substantially correct.

Major-General DASHWOOD:—I said nothing about the American ladies.

Mr. H. J. WILSON, M.P.:—I know General Dashwood did not refer to the American ladies; but in the letter in which Lord Roberts apologised to the American ladies for what he had said about them, he admitted to the full that their statements were substantially correct—that was the ground of his apology. Therefore, whatever you may think about the Committee, and about your humble servant who is now addressing you, it is the fact that Lord Roberts admitted the state of things which existed in India at that time. Another remark was made to which I desire to refer. Major Mayne referred to deferring the evil day. I have no doubt he will himself explain what he meant by that, as he is well able to explain; but I should like to associate myself with the expression, and if I may be allowed to take his pointer I will show what I mean. There you have the lowest point that was reached in 1873, and there the point that was reached in 1887; and when Major-General Dashwood claims—and I have no objection to grant it for the sake of argument—that that is the last year when the cantonment system was in operation—

Major-General DASHWOOD:—Fully in operation.

Mr. H. J. WILSON, M.P.:—There is the lowest point and there is the highest. You have got to 522 in 1895. And it is a fact, as Major Mayne has stated, that at the rate at which it was going you would, even on your own showing, have arrived at that figure about 1898 or 1899. How you can consider anything of that kind to be a remedy, I do not know. I will make you a present of the line on the diagram for the sake of argument. Leaving entirely out of consideration the question of what was really going on, it is certain that these diseases were constantly rising, and would, probably, in 1898 or 1899, have arrived at the same point reached by the last statistics. How you can imagine that you will get a remedy in such a state of things as that, I cannot possibly understand. I hope there may be some right-about-face and an entirely different method adopted.

Captain D. V. PIRIE, M.P., 3rd (King's Own) Hussars:—It is with some regret that I rise immediately after my honourable friend, because, as a Liberal, in nearly every other subject I find myself entirely in sympathy with his views. On this subject, I am sorry to say, we differ very much; and I must traverse at once most emphatically the statement he made when he said that those opposed to his view were parties to an encouragement and a sanction of vice. Had I for a moment believed that the arguments of Major-General Dashwood in any way encourage vice, I should not have belonged to his committee. All I wish to do is to give a free hand to India, and not to fetter her in matters which concern India, and India solely. I will point out to Mr. Wilson that, on moral grounds, I suppose he does not approve of polygamy; and yet he will not try to stamp out polygamy in India. Why then should he try, and the Government try, by laws made in this country, to adopt measures that are in antipathy to the best interests, the wishes, and feelings of the people of India? I think, as Major Rasch has said, that half a loaf is better than no bread. What we now have to do to complete our loaf is to try and get a better stamp of men to join the Army. It is not sufficient to say that we can be satisfied with anything but stamping out this disease entirely. Even the very lowest statistics of the disease ought not to exist. It is not a satisfactory state of affairs that these diseases should exist in any way, and finality in corrective measures cannot be accepted until this end has been reached. We can now go very far towards accomplishing this if we take measures to send out a better and older class of men to India. To-day, in the House of Commons, it was admitted by the Under-Secretary of State for War that a boy enlisted in the Army at the age of fifteen. I look upon such an admission as a most serious one. Every

officer must know, and it is laid down in the regulations, that no young man should go to India until he is twenty. If a boy is taken at fifteen, however, he is probably sent out at sixteen. The nominal age of a man in the Army is but seldom the actual age. The actual age, as a rule, is eighteen months or two years younger than the nominal age, and that difference between the two ages follows him all through his career. I am convinced, if we accept what the Government has given us, and devote all our attention to improving the class of men who enlist in the Army, get them at an older age, and see that the age regulations are really carried out by enforcing the production of a birth certificate for every recruit, we shall have done all we can do, at any rate for the present. Surgeon-General Pringle has alluded to this disease as leprosy. Very well; if it is leprosy, the least we can do in this country is to treat it as any other contagious disease is treated, namely, to make it a criminal offence for anyone to conceal it, be he medical practitioner or sufferer; to treat it under the same law as small-pox and all other contagious diseases. It is assuming the dimensions of a national danger; and when you have men like Lord Fortescue writing to the *Times* and giving forth to the public these appalling statistics, to my mind it shows an utter absence of carefulness for the welfare of the nation if such statistics are ignored, and if any party tries to prevent the State from exercising its just power and right to eradicate this terrible scourge.

Surgeon-General A. C. C. DE RENZY, C.B. (late Indian Medical Service) :—I should like to ask the lecturer whether the statistics represent the prevalence of disease in the whole Army of India, or merely in the stations in which contagious diseases hospitals exist. Everyone who has been in India knows that a very large proportion of the Army is stationed in places where there are no C.D. Acts at all in operation; while, on the other hand, a very considerable proportion is stationed in places where the C.D. Acts are in force. I should like to know how these statistics have been prepared.

Major MAYNE :—Everyone of these figures is from Lord Onslow's Committee's report; they are not mine.

Surgeon-General A. C. C. DE RENZY :—That shows that these figures are absolutely worthless for the purpose for which they are produced. They are put forward to illustrate the effects of the action of the C.D. Acts.

Major MAYNE :—They are put forward in the report of Lord Onslow's Committee.

Surgeon-General A. C. C. DE RENZY :—Then I say that the people who made that report did not understand the question—that is the vital point. I happen to have been connected with the Sanitary Department in India for the period of over twenty years embraced in these Acts, and I can tell you something of how the Acts were worked. I say, considering the insufficient way in which the C.D. Acts were worked, the results were extremely satisfactory. I believe that if Sir John Strachey himself, who put forward a very high ideal of success, were consulted in this matter, if he knew the way in which these C.D. Acts were worked, he would say that the results fully justified his expectations. The Acts were carried out in a half-hearted way in India. I went through every C.D. hospital in the Punjab. For several years I was Sanitary Commissioner in that province, and I know exactly what I am talking about. There were no proper means of secluding the women at all. I remember once going on a visit of inspection with Surgeon-General Cunningham, whose name has been mentioned in this report, and we actually found that the men visited the women in the hospitals and had easy access to them there. Now, surely a system that is conducted in that way cannot be expected to yield any very decisive results in the controlling of contagious diseases. The Acts must be administered in a much more effective way than they have been administered to realise the expectation that Sir John Strachey entertained of them. At this late hour I would only add a few words as to the

condition of prostitution in the Punjab—a province I am very familiar with. It is a well-known fact that in the Punjab—and, I believe, also in the greater part of India—prostitution is as much a profession as the medical profession, or the legal profession, or the Church are in this country. Indeed, the word in the native language, corresponding to “prostitute,” *kusbi*, means a professional—a woman who practises a profession. It may surprise you a good deal when I tell you that many women who practise this profession occupy a very respectable social position in the Punjab, and are people of considerable standing. I remember when I was a civil surgeon at Moultan that one of the principal kusbis of the place was a very wealthy woman, the owner of nearly all the camels that carried on the transport of the district of Moultan, and she was a woman held in great repute in native society. It is the same thing in other parts of India; and to apply to a country, in the condition and the moral state of India, ideas which prevail in this country is altogether out of place. The followers of all other professions have to submit to restrictions of various kinds. It seems absurd that the followers of the profession of prostitution, which inflicts such calamities on society, should be left altogether without control. In conclusion, I will add my firm belief that if the C.D. Acts were administered thoroughly with proper appliances, if the medical establishments provided for carrying them out were adequate to the duties they have to perform, the results would be satisfactory. Let me tell you that the medical examination of a number of women is a very serious thing—it is a very laborious operation. It is not to be done in half-an-hour or an hour in the morning; it takes several hours to do it properly. To be effective, it must be done thoroughly. I say, if you have proper hospitals so that the women can be secluded, and proper medical establishments, and if registration is carried out thoroughly, I believe you will have fairly satisfactory results in controlling these terrible diseases—results which would fall little short of the expectations held forth by Sir John Strachey when the C.D. Acts were first introduced.

LORD KINNAIRD :—At this late hour I do not propose occupying your time at any length, but I should like to make one or two suggestions which may lead to some practical results. I am sure we are all glad that Major Mayne has raised this question, and we are also thankful to Sir Henry Cunningham for the way in which he discussed the question from his point of view. While probably disagreeing with him in the line that he has taken, I venture to think that if the discussion on that subject were conducted as it has been here in a fair and temperate way, we should get a little more forward towards arriving at some result whereby disease might be dealt with, without encouraging immorality. At present we are too much divided into two camps. I think that many who are driven into the opposite camp are driven there by language such as was used here on the last occasion. There are two ways of conducting the discussion. First, there is the straightforward hitting out. General Dashwood rather likes to speak plainly, letting us know what he thinks of us, that is, that we are all qualified for Hanwell and fast going there. We know that that is what he thinks, and that many of those who agree with him more or less concur with his view. We are accustomed to it and we are prepared to fight. But the question will not be settled in this room—it will be settled in the constituencies. We are much obliged for a great deal that we have heard to-day. The last speaker, I think, has helped us a good deal to clear the ground. He tells us what we have known for some time that the Government figures are utterly unreliable. We know that. He tells us further that the medical figures are cooked and prepared for public consumption.

Major-General DASHWOOD :—I did not say so.

LORD KINNAIRD :—We are much obliged for these statements, as many of us do not place absolute reliance in Government figures. I do not pretend because I have been in India that I know much about it. Some of us, however, have studied the matter here, and are competent to form some opinion upon it. It has

been assumed by some that no one who has not spent his life in India is competent to give his opinion on moral and other questions. I venture to say we are, and we are thankful to those who discuss the matter with us. Further, this discussion has brought out that colonels and commanding officers are going to change their front with reference to the reception they are going to give to those who are going to help forward religious, moral, philanthropic, athletic, and other kinds of work. Some of us have taken great interest in all branches of sport, and we have tried to help the soldiers as well; but I am sorry to say we have received a great deal of opposition, especially in India, in various attempts to benefit the soldiers. I am thankful to think that a new era is about to dawn. I thank General Dashwood heartily for his help in bringing forward this agitation, and for the interest that is to be taken in these matters. I am glad that we are to have the Commander-in-Chief and others helping us in this direction. As to the suggestion made by Sir Henry Cunningham that we who oppose the re-introduction of the C.D. Acts desire that the judgment of God should be allowed to go on working in unchecked disease as a punishment, I never heard of such a contention except from a few extremists. I have never heard it put seriously forward by practical workers, and I have never taken part in this movement. A great many things are put into our mouths which we never say, and I am glad to have the opportunity of contradicting this statement. If any persons on our side have said such a thing, it has escaped my memory or my notice. I would only suggest whether those on both sides who take a moderate view on this subject could not find some way in which they could work together. There are many who have not made up their minds how far they will go in allowing for medical and sanitary purposes certain things to be done. I am now only speaking for myself, not for those for whom I generally sympathise. Many of us in the country would be prepared to go a certain way, provided that alongside with that legislation for medical purposes there were moral, religious, and educational matters honestly carried out as promised in the despatch of the Secretary of State for India. I do not want to say anything uncharitable, but hitherto we have not been helped in many quarters in India with reference to this subject, but we have had opposition when we have tried to co-operate with the authorities. Many of us cannot accept the mere direction of a chaplain, on whichever side he is, as one whose evidence we are to bow down and worship without examination. We know that when a man gets into an official position he views the matter from an official standpoint. A letter has been quoted written by a chaplain. I should like to have a talk with that gentleman, and I should like to know how far he entirely agrees with the other side. I shall be glad of an opportunity of seeing him, and I hope he may give us his views, that we may test whether anything practical could be done. I am sure if moderate people will only work together and see if they can arrive at some common conclusion it would materially help to solve this difficult question, so far as the health and well-being of our troops in India are concerned.

Surgeon-General A. J. PAYNE, M.D. (late Indian Medical Service):—I propose to say a few words about these figures which have come to us from India, and which have formed the basis of all the statistical systems and tables in this country. My statement with regard to them will be rather startling, as it will cut the ground not only from under the feet of our opponents if what I say be accepted, but also in one sense from under the feet of our allies. In the Sanitary Returns of the Government of India, from 1865 to 1885, there is not one single figure that is true as regards the operation of the Act. If they are true, or if they approximate to the truth, it can only be by accident. The Sanitary Commissioner made his returns year by year of the admissions from venereal diseases at all the stations of the British Army. I will now confine myself to the Bengal Presidency. In 1865 the Act commenced to operate—commenced, I say, because there were only two stations in which it was

applied in 1865; in 1866 there were three; in 1867 there were a good many more, and the number went up to forty-five or forty-six in 1872. From the time when the Cantonment Act commenced to operate the Sanitary Commissioner made no change whatever in his method of returning the figures; but the figures, that is to say, the number of cases admitted to hospital in each station, whether the Act was in force there or not, went on just the same, and soon after came to be taken as representing the operation of the C.D. Act. As the men passed from one station to another year by year (no system of inspection existed in the Army at that time)—that is, from an unprotected to a protected station—they carried in the ranks a number of cases of disease contracted at the place they had left or on their march. Soon after their arrival at the protected station these men showed themselves in hospital, and were entered in the returns as local admissions, and they passed into the Sanitary Commissioner's tables, though the disease had not in a single instance been contracted in the place. This method of clubbing stations and concealing the working of the Act had been exhaustively discussed in England and condemned before 1875 by the highest authorities—Parkes, Balfour, and Lawson—but in India it was continued. The tables, of course, are perfectly good and true with regard to the general state of the Army. That is the purpose of the Sanitary Commissioner when he was making a general statement; but when they were used as representing the operation of the C.D. Act, they were necessarily, palpably, demonstrably false. Every rational man must see that if he wants to ascertain the operation of any sanitary measure which is in force in some stations and not in others, he must ascertain so far as he can the quantity of disease produced in each station, separately, and compare one group with another. The cases are rare in which a soldier does not know where he got his disease, though very often he cannot identify the woman. One instance will make my meaning plain. A regiment arrived at Calcutta and was inspected in 1872. Between thirty and forty venereal cases were detected and the men removed to hospital. They had all been contracted elsewhere, but were returned by the Sanitary Commissioner as having been contracted on the spot. No comment is required to show the absolute falsity of such figures as these. They were good and true for the general purposes of the Sanitary Commissioner, as I have said; but wrong as they are, for the special use. It would seem that the Sanitary Commissioner had formed his opinion of the efficacy of the Cantonment Act on these figures only, for nothing had occurred up to the year 1879 in the nature of a special enquiry into the Acts. It had never been necessary, so far as we know, for the Sanitary Administrator to examine the separate stations so as to see by results who was working well and who was not, nor for the scientific officer to examine the disease with reference to the Act itself and its protective powers. He declared himself, however, to be an opponent of the Acts; and on his evidence alone, as is now understood, the Army Sanitary Commissioner at home took the same line. In 1881 the Bengal Government expressed dissatisfaction with the scope of the Act in Calcutta. Its provisions were insufficient in various points. The Lieutenant-Governor applied to have it extended to Howrah over the river, a large suburb with 100,000 inhabitants. Diseased women went there and escaped from arrest, and their women came to us and plied their trade, being unregistered. A committee was appointed to enquire distinctly into the operation of Act 14—that was the Contagious Diseases Act—in the town and suburbs of Calcutta. The Sanitary Commissioner and the Head of the Army Medical Department were members. The only information they had, which, I am glad to say, was very complete, was in the reports of the Superintendent of the Lock Hospitals. These reports gave the figures year by year of admission for venereal disease in all the great hospitals of the place so as to get at the state of the civil population as nearly as we could. They reported an immense reduction in syphilis, from 5,000 to 2,000 cases annually, although the general attendance at hospitals had argely increased. These statistics being the only statistics available for the

civil population, were necessarily taken into the committee's report. But when they came to the statistics of the garrison they seem to have found them unsuitable. They bore crushing testimony against the opinions of the senior medical officers, and they were suppressed, the fallacious table of the Sanitary Commissioner being substituted for them. The signal success of the Act in Calcutta was thus kept out of sight. The Blue-Book of 1883, which contains the report of the Committee, the note of the Sanitary Commissioner upon it, and the despatch of Lord Ripon's Government upon it, make the situation plain. The battle of the C.D. Acts was no longer to be fought on their merits, but on other grounds, and facts must not be suffered to obtrude themselves. You may now understand, if you will, the kind of foundation on which rests the vast fabric of statistics that has been raised to prove and disprove the effect of the Acts. All we know from these figures is that they must, from the method of compilation, grossly understate the benefits derived by the soldiery from the Act.

Lieut.-Colonel E. O. HAY, R.A. (Commanding Royal Artillery, Natal and Zululand).—We must all, I think, feel very grateful to the gentlemen who have lectured on both occasions for having drawn us together and made us realise what the difficulties were in the minds of those ranged on each side of the question. We have learned, I have no doubt, to sympathise with one another by what has been said, and we have learned to see that we have common ground which we may take up. As Lord Kinnaid has just said, with regard to the disease itself, and its dire consequences, there can be no difference of opinion. The theatre was filled on the last occasion, and it is partially filled now, with men who are absolutely at one in regard to their horror at the ravages of this disease, and their detestation of the vice which causes it. We have heard all that put very strongly; and now comes the question, What are we to do? Let me say I am very thankful for the despatch which has been sent, as we have been told in the papers, to India. After what we have heard to-day on both sides, it is evident that we are all anxiously in favour still of some moral effort being made. Even those who have spoken (perhaps with a little warmth) on the opposite side have declared that they are warmly in favour of the moral aspect of the case being kept prominently forward. We are all, therefore, anxious everything that can promote the moral elevation of our men shall be considered. We must, I think, give a meed of praise to the Indian Government for all that has been done in that direction. I suppose we have all served in India at one time or another, many of us, perhaps, lately; and we are thankful for all that Lord Roberts, especially, has done with reference to the moral side of the matter. Immense changes have been produced by the earnest efforts put forth to improve the morale of the troops in India. We all know the effect of these things in our public schools. The evil of impurity has cropped up there. Ask any schoolmaster—the head master of Eton or Marlborough, Harrow or Rugby—ask them who are the boys who get into this trouble. Are they the cricket eleven or the football team? Never. They will tell you that it is the “loafers” who get into trouble, and that is why they are obliged to have compulsory games. I am thankful that they have them, because the young fellows are taught that there are better things to do than loafing about, wasting time in what must lead to vice. So, in the British Army, there is no different law from that which is in force with regard to our own boys at Harrow and Rugby. I am thankful, too, for the words which have been said to-day as to the help of temperance in this matter. At the last meeting here some persons groaned (I hope sceptically, and not perversely) when a suggestion was made that some effort should be made in the direction of temperance, thinking, perhaps, that such things would not stem the torrent; but surely there is not one of us who does not know that the vast majority of men who go with prostitutes go under the influence of liquor. Of course, we all know that there are men who do not; but the vast majority of them get primed with liquor, first perhaps in the canteen, and secondly out of

barracks, and then they get into this terrible trouble. Now, as to restrictive measures, I believe firmly that there is not a man present in this theatre who would not start any restrictive measures of legislation, provided only that they were along the lines of common morality, which we all believe in. We have, therefore, to a large extent common ground. Can we not try to work together for the accomplishment of this definite purpose? Then, let us have these hospitals re-opened; let us move, at any rate tentatively, along the lines of the despatch which has been sent out to India. Let the treatment of cases be made permanent, when once they come in. When once a woman visits a hospital let that sort of restraint be put on her that we put on a small-pox case or any other infectious disorder, and let her remain there till she is healed of her disease—our men are thus treated in the hospital, not being let out till they are healed. Then, as to examination of women on suspicion, of course there must be a certain discretion. Men must be chosen to deal with these things in whom some trust can be placed. If they cannot be trusted, get rid of them, and put others in their place. Every commander has a discretion in carrying out the Queen's regulations and orders. A man who is bound hand and foot by regulations and red-tape is not worth his post. Let those who are placed in these medical positions have a discretion, so that where there is reasonable suspicion they may cause an examination to be held, or let the option of expelling the person from the station be given. Let us remember one thing, that every expulsion from the station diminishes the temptation to some appreciable extent. I may mention, if it is not out of place, that where I am quartered venereal returns have been going through my hands weekly, and I am thankful to say that the numbers were smaller (even though batteries have changed) than in units of the same size in other parts of the station. The reason is simple. Prostitutes are not so numerous, close to where we are. The men have to go further to fall in with them. The argument, therefore, follows: Diminish the temptation and you diminish the disease. I think we are all very anxious that legislation should not only take the form of repressive measures, but should first run on the lines of morality, followed by such restriction as may be necessary; in other words, that we should deal with the cause, and not only with the effect. And, whatever we do, do not let us legislate in a panic; because legislation in a panic is sure to be only temporary, and to be followed by some disastrous consequences. We all agree that morality must be at the bottom, with such restrictions as are possible on those lines.

MAJOR MAYNE, in reply, said:—It strikes me that the most astonishing thing with regard to the discussion that has taken place, is the sudden turn-round on the part of some of the speakers in flinging aside all the official statistics that have been presented to us. Even in the pamphlet issued by the Army Health Protection Association figures are quoted and diagrams given almost similar to the one I have shown, and now they turn round and fling the whole of them aside and say that they are all worthless! As I mentioned to Sir Henry Cunningham before he left, I hoped that he did not think I had any intention of manipulating the figures, which are official, and not mine. I simply took the official statistical returns and the various official reports, and it startles me to be told now that they are all worthless; that the responsible officials, who drew them up, had ulterior purposes in view, and that the statements they have made are absolutely incorrect. If that is so, then all I can say is, what are we to believe in any report that is put forward, when statements like these are flung in our faces? Surely when the pamphlet issued by the Army Health Protection Association gives figures professing to show the diminution of diseases after the introduction of lock hospitals, and then stops short at the year when the figure begins to rise,¹ it is not right to turn round and say, "You are manipulating the figures"! It is impossible for me at this late hour to detail with what every

¹ See page 11 of pamphlet.

speaker has said. Nobody doubts the seriousness of the question. Everyone agrees with the desirability of pressing the moral side of the question. The point is, whether restrictive legislation in addition to moral factors is of any good at all. Has it, in the past, produced any serious influence? My plea is that it has practically had no effect. Dr. Payne turns round and says that these general statistics are no good; that we ought to have station statistics, and only deal with those stations that are protected. However, in many reports it is stated that in certain areas the unprotected-stations had a less amount of disease than the protected stations. Surgeon-General De Renzy pointed out that the Acts were not worked properly, and said that the reports accordingly were all wrong, and he advocated a more stringent administration in every way. But in 1877 the Army Sanitary Commissioners reported that to keep down clandestine prostitution would require a degree of zeal and hourly watchfulness which is never likely to be carried out. It is impossible to deal with all the immoral women of such a country as India. As to clandestine immorality, it is curious that, although the abolition of the Acts has long ago taken place in England, the amount of disease has admittedly fallen to a lower degree than ever before. Colonel Keyser stated that in India they had no filthy literature in the barrack-rooms. But it is impossible to carve off a bit of men's lives from the rest of them. They start in England in the direction of immorality; and I do not think it a sound argument to say that they can then go out to India and suddenly cut off that tendency. We must acknowledge the continuity of life. Then we hear about the Divine injustice of making helpless people suffer. To my mind that is far too large a question to touch on now, as it would be entering into the whole philosophy of life. Is society an aggregate of separate units, or is it an organised body in which every unit is connected in some way or other with every other unit? We know that the atomic theory of society has completely died out of philosophy, and that all modern systems of legislation are based upon the organic theory, which is, that if one member suffers, the whole body suffers with it; that if one rejoices, others also rejoice in consequence. To talk of the injustice of helpless people suffering from the wrongdoings of others, is to ignore the very constitution of society. Nations and communities are not aggregates of independent atoms. To assert the opposite is to adopt a line of argument opposed entirely to the constitution of society, of nations, and of the whole human family. With regard to the question of the relation of cause and effect, all I can say is, that I have taken the facts from the reports. People can draw different conclusions from them; but if you will look at the whole of the statistics, you will see that it is with increases of establishment, and increased percentages of young and immature men that rises in the prevalence of disease occur. To turn round and say that this increase is entirely due to the closing or opening of Lock Hospitals is to make a deduction which is not sound, when you have other facts showing the close connection between the rise of disease and the increased numbers of young and immature men arriving in the country, combined with special facilities for practising immorality. Sir Henry Cunningham has said that it is inconsistent on my part not to wish to have *beforehand* remedies. I do not think it is at all inconsistent. Speaking for myself, I feel very strongly that the old C.D. Acts were immoral both in their conception and in their tendencies. Some may say that they do not look upon them as immoral in their conception; but I certainly think that they were, as they were not for preventing immorality, but for providing healthy prostitutes. Certainly the men whom we want to benefit did look upon them in that light. And they were immoral in their tendencies, because the men said:—"These things are provided for us, and therefore we may make use of them." Sir James Fergusson spoke of single places—Bombay, Malta, Gibraltar, and Hong-Kong. I must protest against taking any single instances as arguments in dealing with the statistics of a whole country. It is the old story of founding general

conclusions upon single instances. I said that the reports stated that women were harassed by the police. That is stated in a despatch of the Indian Government in 1882 as one of the reasons why they wanted to abolish the Act—the acts of injustice that took place. Let me, in conclusion, ask you to think over this sequence of facts. We are dealing with a community in which clandestine immorality is extremely prevalent; that is, we have to deal with women who are not official prostitutes—whether they are a honoured class or not—women who practise immorality in addition to other vocations. We have also evidence that amongst this community venereal diseases are extremely rife. It has further been stated that the examination of women is no criterion as to whether they can impart diseases or not. Then again, we have evidence that these women, although examined, will consort with native men amongst whom also disease is as prevalent as among the native women themselves. How are you going to deal with these difficulties when it is further acknowledged that a cantonment area is small? I admit the argument that the removal of a temptation will lessen the chance of evil; but you can only order the women to go away a mile, perhaps, and they can settle down outside the limits of the cantonment area. How is that going to benefit matters in the long run, considering the other facts of the case? I may say I regretted to hear Colonel Owen Hay speaking of the retention of the women only. Now, if venereal diseases are to be included under the Cantonment Act, surely men must come under them as much as women. Otherwise you would have class legislation, which has always been a great source of injustice. General Dashwood spoke of timely treatment. I do not think that timely treatment necessarily involves the re-introduction of the Lock-Hospital system. Captain Pirie called attention to Lord Fortescue's statistics, which appeared in the *Times*; but two days afterwards it was pointed out that Lord Fortescue's statistics were not accurate—that he had taken the statistics of London for one year, and compared them with the statistics of the whole country for the next year. I am glad that Dr. Payne spoke of what I have advocated—the necessity of separate stational returns as well as general returns. Without that information, and other points that I have noted, I do not see how any real and true legislation for the future can be decided. He also spoke of the influx and efflux of prostitution in the towns. That is the crux of the whole question; how are you going to stop it in such a country as India? The statements made during the discussion as to the suppression of facts involves a very serious charge, and it is not for me to say anything about it. I leave it for those to deal with it who can defend themselves. It is a serious statement, and I cannot say whether it is right or wrong, though I do not consider it credible.

The CHAIRMAN:—It is, I understand, customary for the Chairman, before thanking the lecturer for furnishing us with *data* for discussion, to say a few words in the way of summing up. The time has run on so much that it is impossible for me to attempt to sum up; but with the permission of those who have been good enough to sit out this discussion, I may perhaps make one or two general remarks. First of all, I should like to thank the members present for the spirit in which the discussion has been conducted. Only once a little interruption occurred. I was about to point out that it was not in the interests of fair discussion, but the speaker himself alluded to it and the interruption ceased. Secondly, allow me to say I think there has been manifested in this meeting a very unanimous feeling that certain vigorous and active measures should be taken to cope with these terrible evils. I do not believe there is a single officer present, no matter how deep his religious convictions, no matter how strongly he upholds the interests of Christianity and morality, who would dissent from that, and say that you should not take steps to try and stop these evils. I say that particularly, because in the early part of the discussion some remarks, I think, were made which confused very much the listeners in this room, and with which I think no Christian man in the Army would agree. There has, I think, been in this meeting an entire consensus of opinion

that a *non possumus* attitude should not be adopted, but that the utmost support should be given, whether legislatively or from a military point of view, to all practical measures which can help to solve this difficult problem. It is perfectly clear that there are two schools of thought on this subject. They differ very widely on some points ; but they have this common line of action, as Colonel Owen Hay pointed out, and as Lord Kinnaid also put it—that you must do something to meet these terrible evils. They agree upon that point, but they differ widely both as to aims and methods, both as to principles and remedies. I may, perhaps, without offence, call one school the physical school and the other the moral school. I will not deal with principles, because it would perhaps take too long ; I will simply refer to remedies. The physical school says :—“ Re-impose the C.D. Acts with added stringency, and you will soon reduce these diseases.” Without accepting the efficacy of the C.D. Acts, the other school, without even basing their views upon statistics which may be looked upon from all sides, and which have been utterly flung to the winds this evening, replies :—“ You are beginning at the wrong end—you are but touching the fringe of the evil ; you are trying to deal with consequences, not with causes, therefore you are putting the cart before the horse. Immorality is the cause, therefore lay the axe to the root of the tree and attack immorality first ; then, provided you make your laws based on morality, we do not care how stringent you make all your restrictive legislation and cantonment rules.” They say :—“ Moral forces are natural forces, and the whole civilisation in the history of the world attests the power of moral forces ; you can no more break moral laws than you can break the physical laws of nature with impunity.” Therefore, they say it is not sound legislation to base laws on immorality, because, as it has been said, what is moral wrong cannot be political right. But without entering upon numerous small points that have been raised with regard to remedies, I will merely allude to what the lecturer has said as to the moral grounds upon which legislation should be based. On this point I may introduce one note that has not been struck in this meeting, and that is, that it is sound policy on the part of the legislation to act on moral grounds, because I hold very strongly—I think it has come out from what has appeared in the Press and elsewhere—that the country is now aroused to the importance of this question of the terrible evils present and prospective both to the efficiency of the Army and to children yet unborn ; so that if you base your laws on moral grounds you will have the whole moral and religious force of the nation behind you ; but if you base your laws on immorality you will raise such a storm throughout the country that no Government, however strong, will be able to face it. The Government will either be turned out, or they must alter their legislation. The upshot of the thing is this, the moral school say that you have now a grand opportunity of dealing with the case now that the facts have been brought forward. I agree with all that Lord Kinnaid and Colonel Owen Hay have said, and I thank them, and also General Dashwood and others for having brought the question forward, because I think we have been too namby-pamby about it. There has not been enough said by commanding officers and others on the subject ; but now I believe the whole feeling of the nation is aroused, and there is, therefore, a grand opportunity of dealing with it. “ Use that opportunity,” say the moral school, “ on sound lines—both on the grounds of policy and sound statesmanship ; on the grounds of securing the efficiency of your soldiers ; on moral grounds, on Christian grounds ; base your laws on morality ; discourage vice, encourage virtue ; then, provided your laws are just as between the sexes, we do not care how stringent you make your cantonment rules and your system of inspection ; only it must be done on moral and reclamatory grounds, not on grounds that will tend to make men think that they can be immoral with impunity, because if you do that you will continue these evils which have been growing. In that way you will really take measures which will not only be preventing disease, but will also prevent immorality.” I believe that is the whole difference between the two schools. I believe with Lord Kinnaid that if

they could meet together they would find that laws could be devised which would thoroughly meet the whole case. I do not think that the moral school have the smallest objection to the compulsory detention of women; but they kick, and I think kick rightly, at the old Indian system which simply provides an establishment of prostitution. Nothing could be more abominable, and nothing could be falser as a matter of legislation. I need not say more, except in your name and in my own to thank Major Mayne very much for the capable way in which he has dealt with these statistics, and also for the higher tone that he struck at the end of his lecture. I am sure all present will cordially and unanimously thank him for the trouble he has taken.

LONDON :

J. J. KELIHER & Co., Naval and Military Printers, 17B, Great George Street, S.W. ;
33, King William Street, E.C. ; and 139, Upper Thames Street, E.C.

